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ABSTRACT

This publication provides projections of statistics for elementary and secondary schools and institutions of higher education. Projections for the 10-year period from 1971-72 to 1980-81 are made for enrollments, graduates, teachers, and expenditures. Based mainly on 1960-61 to 1970-71 Office of Education data, the projections primarily assume that the past 11 years' trends in enrollment rates, retention rates, class sizes, and per pupil expenditures will continue through 1980-81. Numerous tables and graphs illustrate the data. (A related document is ED 049 559.) (Author/MLF)

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PROJECTIONS OF EDUCATIONAL STATISTICS TO 1980-81

1971 Edition

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FOREWORD

This publication provides projections of statistics for elementary and secondary schools and institutions of higher education. The statistics include enrollments, graduates, teachers, and expenditures. These projections supersede the ones shown in *Projections of Educational Statistics to 1979-80,* 1970 edition. They are based mainly on 1960-61 to 1970-71 Office of Education data, and they cover the period 1971-72 to 1980-81 for the United States. Table 1 is a summary of these projections and is available separately in a pocket-sized folder as *Statistics of Trends in Education 1960-61 to 1980-81,* 1971 edition. Many of these data are available by State for 1970-71 in the Office of Education publication, *Digest of Educational Statistics,* 1971 edition.

The projections shown here primarily assume that the past 11 years' trends in enrollment rates, retention rates, class sizes, and per pupil expenditures will continue through 1980-81. Further information about projected changes and the assumptions on which these are based are shown in the main body of this report. Details of the methodology used in making these projections are given in the appendixes.

Dorothy M. Gilford,
Assistant Commissioner
for Educational Statistics

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CHAPTER I

Introduction and Summary

This is the eighth in a series of annual projections of data on education, revised each year in order to take account of current information and emerging trends.

This edition incorporates projections of enrollments based on revised population projections by the U.S. Bureau of the Census. These population projections take into account changes revealed by the 1970 Census, but the intercensal estimates (1961-69) on which most of the enrollment trends are based have not yet been changed on the basis of the 1970 Census.

Data from both the 1969 and 1970 *Fall Enrollment in Higher Education, Supplementary Information* became available in time to be included in this edition. These data enable us to see better where we have been, thus improving the ability of higher education enrollment projections to reflect past trends.

However, all projections are based on assumptions, and not everyone agrees on what is likely to occur in the future. Therefore, the methods and assumptions used to develop these projections are shown in detail in appendix A. This enables any reader to reconstruct these projections using his own assumptions.

The statistical universe from which the enrollments and other educational data shown in this report were drawn consists of (1) the public school districts which report to their respective State departments of education, (2) the nonpublic grade schools included in the Nonpublic School Directory of the U.S. Office of Education,[1] and (3) the institutions of higher education meeting the requirements for inclusion in the Higher Education Directory of the Office of Education.[2] The coverage is for the 50 States and the District of Columbia and excludes extension centers of U.S. educational institutions abroad.

The published sources of the data, usually Office of Education surveys, are noted in each table. The tables are grouped by subject matter—together with detailed explanations of inclusions, exclusions, and descriptions of the data and projection methods—in separate chapters on enrollments, graduates, teachers, expenditures, and tuition and other charges.

Footnotes to the tables state the assumptions on which the projections are based, with references to tables and other data in the appendixes giving detailed technical explanations of estimation and projection methods. The appendixes also include selected details of classification changes, a glossary of terms, and a number of auxiliary tables.

The projections are based, essentially, on trends in enrollment rates of the population over the past 11 years and on the projected population groups from which enrollment will be drawn in the next 10 years. Equations mathematically relating enrollment rates and other statistics to time and the description of the data on which they are based are shown in appendix A, tables A-1 through A-4. The projections of population of the typical age at each level of enrollment are shown in appendix B, tables B-1 and B-2. (The population data used are those projected by the Bureau of the Census and reported in its population series P-25[3].)

The enrollment rates have been growing steadily over the past 10 years, but the population groups have been growing less rapidly and some are dropping in size. The interaction of population size and enrollment rate determine, directly or indirectly, the projected values of statistics in all areas of education. Projected values are shown graphically for the principal areas of education in figures 1 through 9 and, in more detail, with percentage increases from 1960 to 1970 and from 1970 to 1980, in table 1.

---

[1] U.S. Department of Health, Education, and Welfare, Office of Education, *Nonpublic School Directory, Elementary and Secondary Day Schools, 1968-69,* Washington, D.C.: U.S. Government Printing Office, 1970.

[2] U.S. Department of Health, Education, and Welfare, Office of Education, *Education Directory, 1970-71, Higher Education,* Washington, D.C.: U.S. Government Printing Office, 1971.

[3] U.S. Department of Commerce, Bureau of the Census, *Current Population Reports,* "Population Estimates and Projections: Projections of the Population of the United States, by Age and Sex, 1970 to 2020," Series P-25, No. 470, November 1971.

A summary of major trends, past and projected, follows:

Major trends in education

(1) The school-age population is increasing less rapidly or declining.

	Percent change 1960 to 1970	Percent change 1970 to 1980
Elementary age (5-13)	8.3	-6.8
Secondary age (14-17)	40.1	-0.4
Higher education undergraduate age (18-21)	50.3	14.3

(2) The high school graduation rate is increasing.

	Graduates as percent of 18-year-olds
1960-61	69.6
1970-71	77.2
1980-81	83.7

(3) The proportion of high school diplomas awarded to boys is increasing and is expected to exceed 50 percent before 1980.

	Boys as percent of all graduates
1960-61	48.6
1970-71	49.6
1980-81	50.3

(4) Proportionately more people are earning college degrees.

	Bachelor's degrees as percent of graduation age population
1960-61	17.4
1970-71	24.6
1980-81	31.6

(5) A larger proportion of degrees earned are advanced degrees.

	Master's as percent of total	Doctor's (except first-professional) as percent of total
1960-61	16.8	2.2
1970-71	20.0	2.9
1980-81	22.0	3.8

(6) The proportion of bachelor's and first-professional degrees awarded to women is increasing.

	Women as percent of bachelor's and first-professional-degree recipients
1960-61	36.0
1970-71	41.9
1980-81	46.5

(7) Degree-credit enrollment in 2-year institutions in growing faster than in 4-year institutions.

	Degree-credit students in 2-year institutions as percent of all degree-credit students
1960	12.6
1970	20.6
1980	24.9

(8) The ratio of public elementary and secondary students to classroom teachers is declining.

	Ratio of students to classroom teachers		
	Total	*Elementary*	*Secondary*
1960	25.8	28.4	21.7
1970	22.3	24.3	19.8
1980	21.0	22.7	18.9

(9) The cost of educating public elementary and secondary students is increasing.

	Current expenditure per pupil in average daily attendance (1970-71 dollars)
1960-61	$529
1970-71	858
1980-81	1,092

(10) The cost of educating college students is increasing.

	Current expenditures per full-time-equivalent student for student education (1970-71 dollars)		
	Total	*Publicly controlled institutions*	*Privately controlled institutions*
1960-61	$1,586	$1,538	$1,656
1970-71	2,208	2,035	2,687
1980-81	2,699	2,486	3,593

FIGURE 1. ENROLLMENT IN GRADES K-12 OF REGULAR DAY SCHOOLS, BY INSTITUTIONAL CONTROL AND ORGANIZATIONAL LEVEL: UNITED STATES, FALL 1960 TO 1980

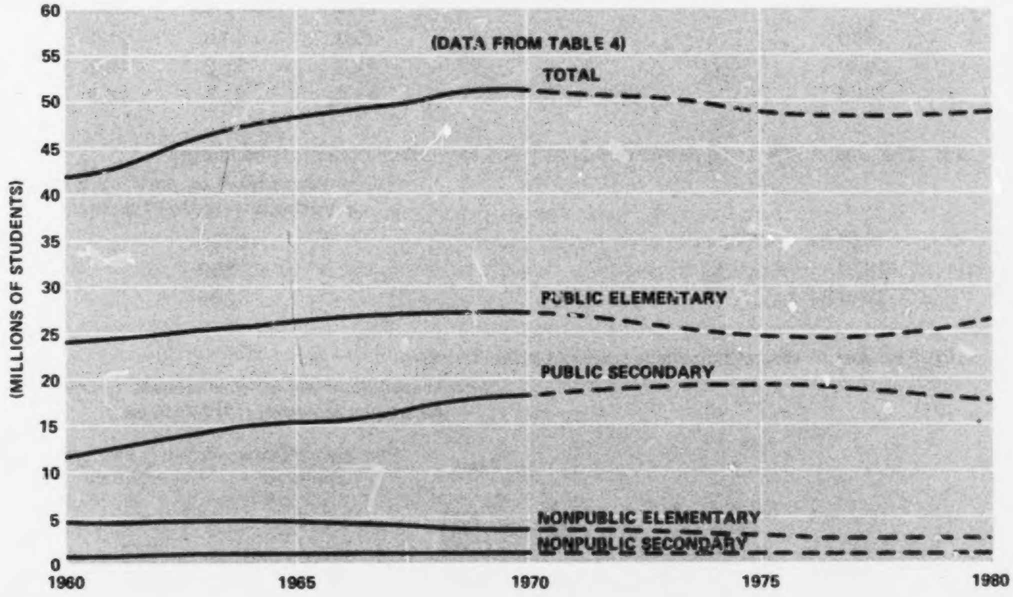

FIGURE 2. TOTAL DEGREE - CREDIT ENROLLMENT IN INSTITUTIONS OF HIGHER EDUCATION, BY CONTROL AND TYPE OF INSTITUTION: UNITED STATES, FALL 1960 TO 1980

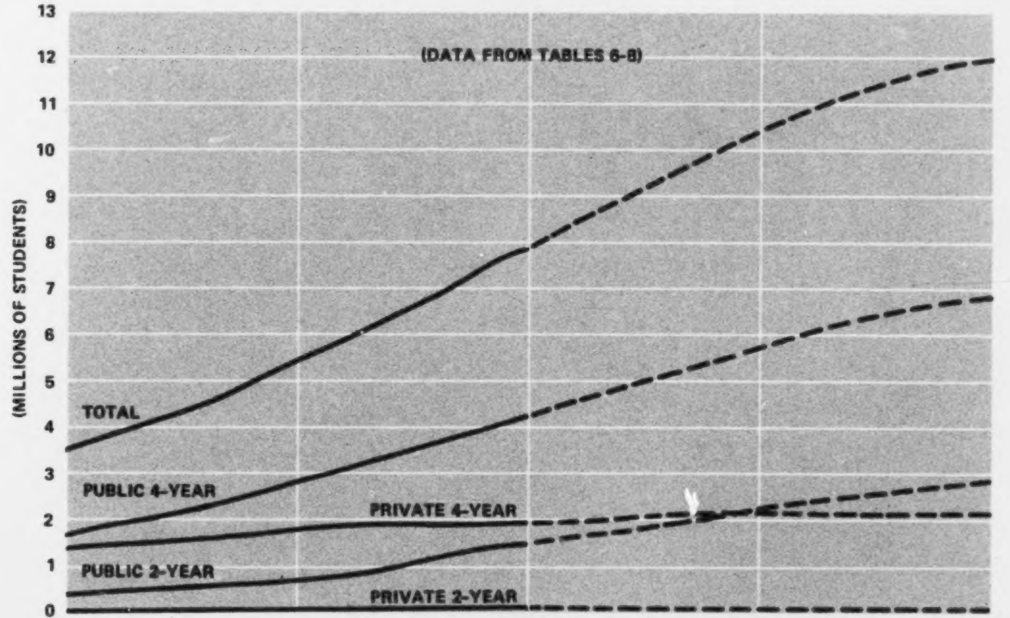

FIGURE 3. HIGH SCHOOL GRADUATES: UNITED STATES, 1960-61 TO 1980-81

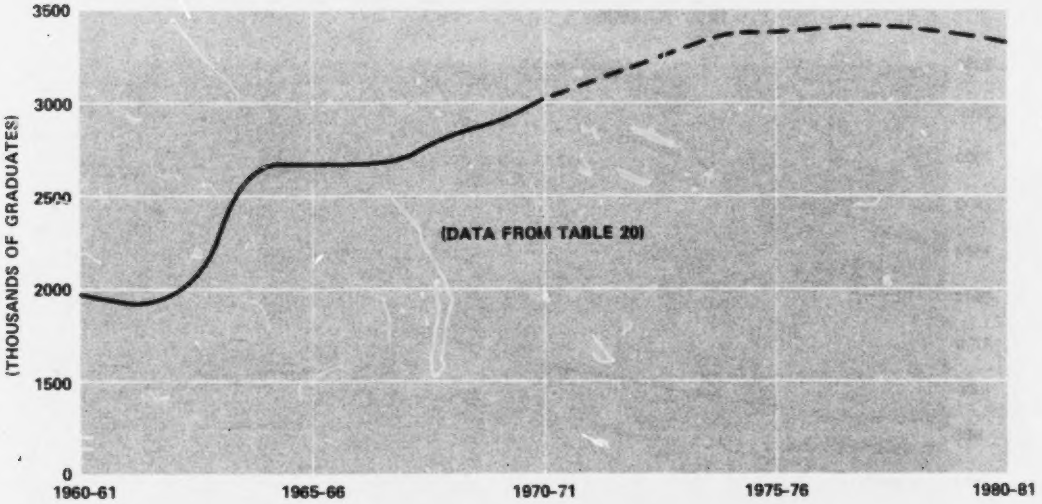

FIGURE 4. EARNED DEGREES, BY LEVEL: UNITED STATES, 1960-61 TO 1980-81

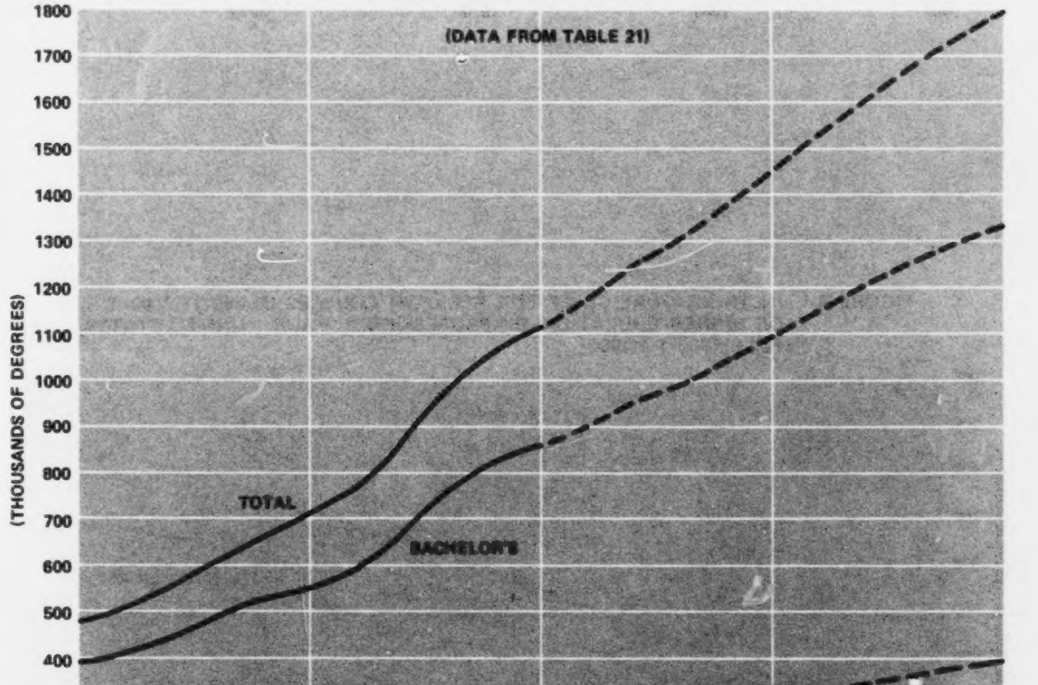

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FIGURE 5. CLASSROOM TEACHERS IN REGULAR ELEMENTARY AND SECONDARY SCHOOLS, BY INSTITUTIONAL CONTROL AND ORGANIZATIONAL LEVEL: UNITED STATES, FALL 1960 TO 1980

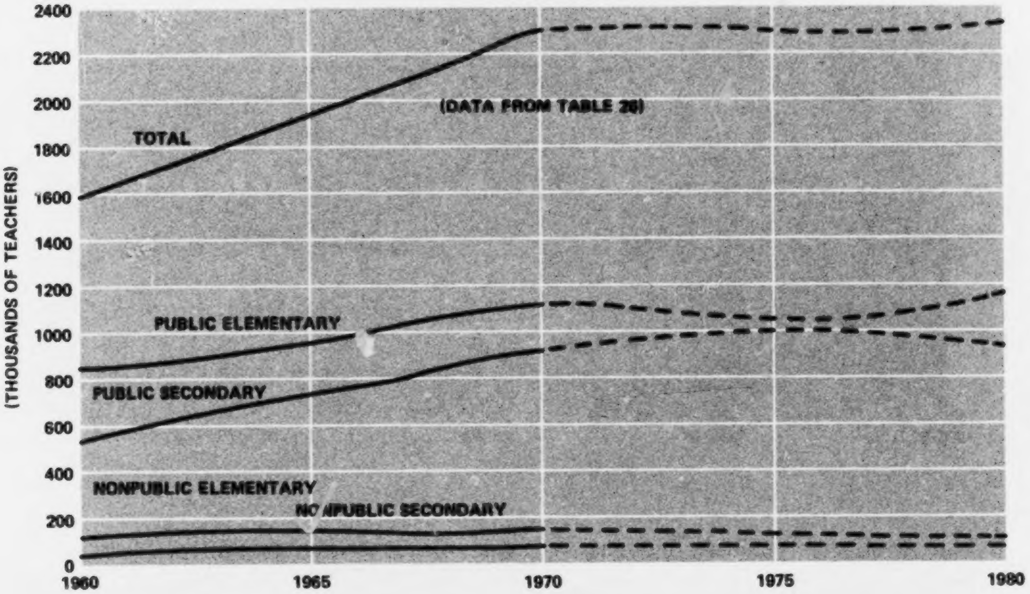

FIGURE 6. INSTRUCTIONAL STAFF FOR RESIDENT COURSES IN INSTITUTIONS OF HIGHER EDUCATION, BY PROFESSIONAL RANK: UNITED STATES, FALL 1960 TO 1980

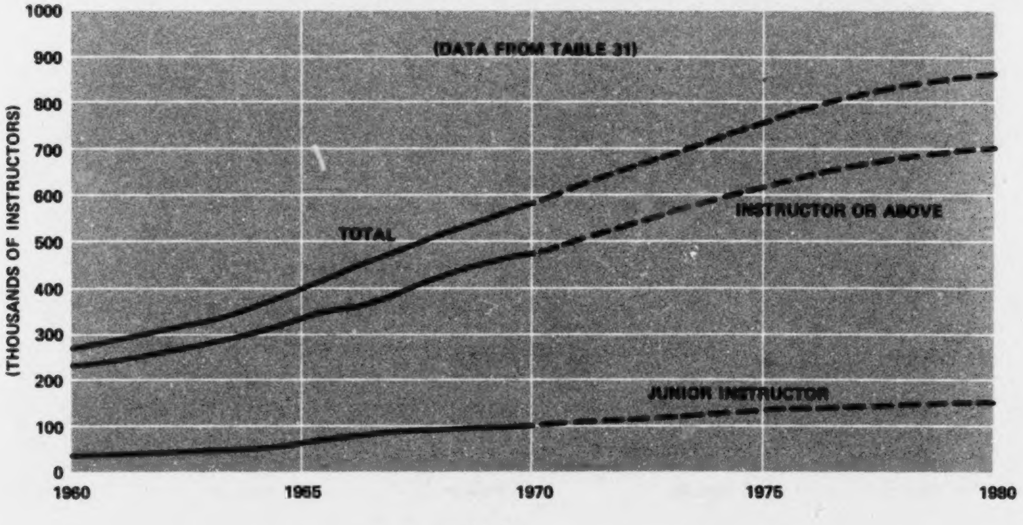

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FIGURE 7. TOTAL EXPENDITURES (1970-71 DOLLARS) BY REGULAR ELEMENTARY AND SECONDARY DAY SCHOOLS: UNITED STATES, 1960-61 TO 1980-81

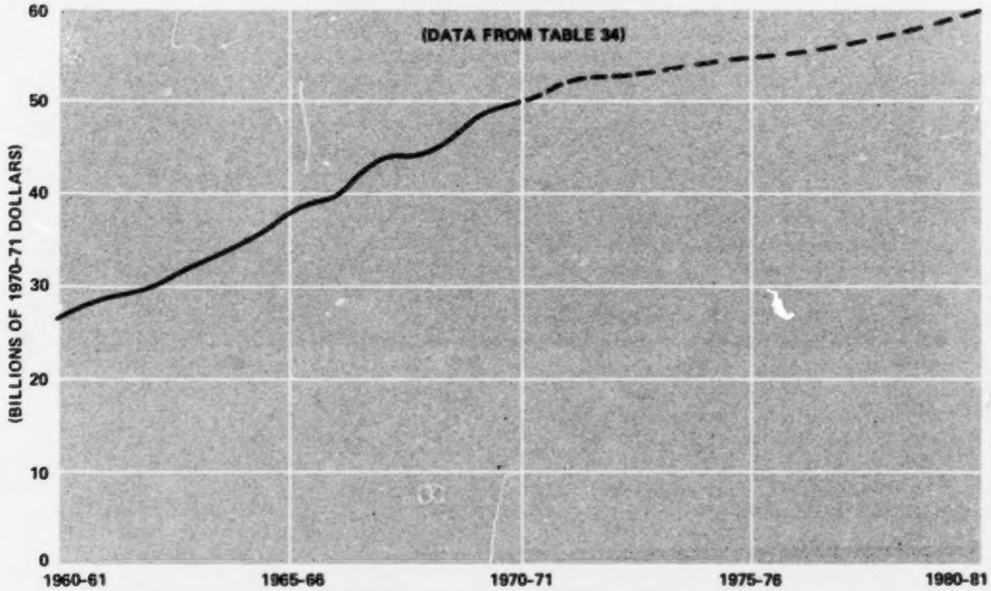

FIGURE 8. TOTAL EXPENDITURES (1970-71 DOLLARS) BY INSTITUTIONS OF HIGHER EDUCATION: UNITED STATES, 1960-61 TO 1980-81

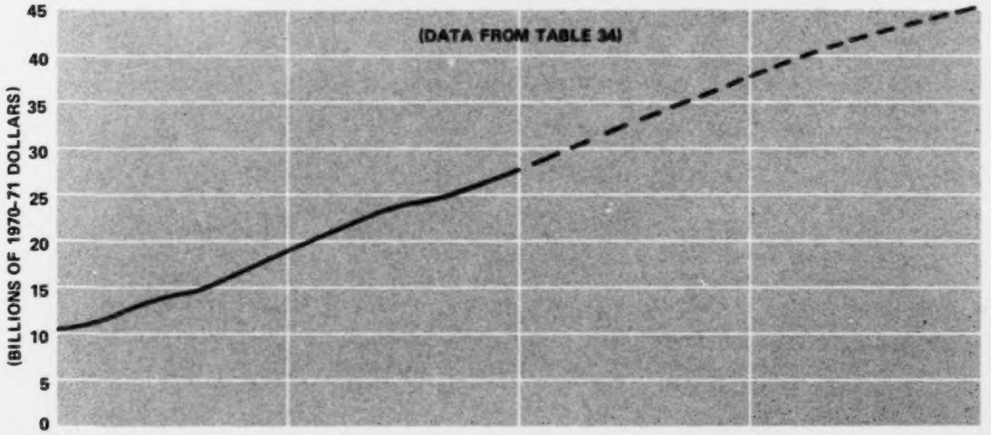

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FIGURE 9. SCHOOL-AGE POPULATION: UNITED STATES, OCTOBER 1960 TO 1980

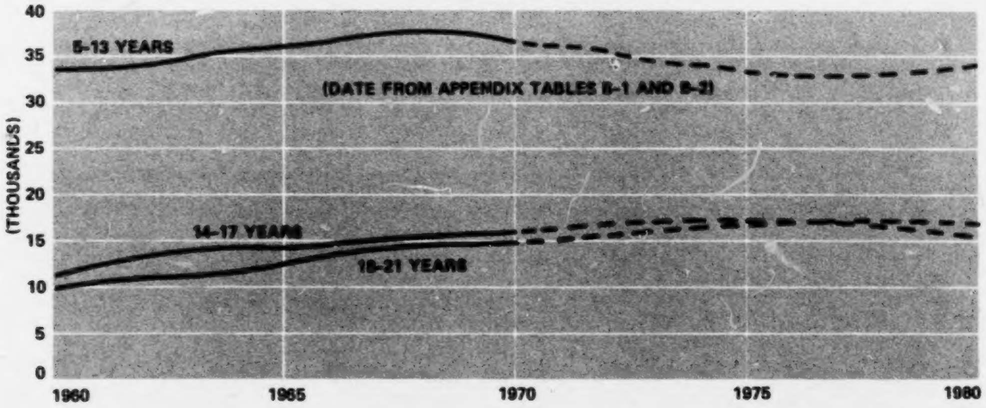

Table 1.—Summary of trends in education: United States, 1960-61 to 1980-81

Characteristic	Fall 1960	Fall 1970	Percent change, 1960 to 1970	Fall 1980 (projected)	Percent change, 1970 to 1980
	Thousands			Thousands	
School-age population:					
5-13	33,664	36,443	8	33,950	-7
14-17	11,411	15,992	40	15,289	-4
18-21	9,724	14,616	50	16,712	14
18 (nearest birthday)	2,789	3,826	37	4,074	6
Public school districts	38.1	18.0	-53	–	–
Operating	33.3	17.2	-48	–	–
Nonoperating	4.8	0.8	-83	–	–
Enrollment:					
K-grade 12	42,181	51,404	22	49,200	-4
K-8	32,492	36,674	13	34,800	-5
9-12	9,689	14,730	52	14,400	-2
Public	36,281	45,904	27	44,800	-2
K-8	27,692	32,574	18	31,800	-2
9-12	8,589	13,330	55	13,000	-2
Nonpublic	5,900	5,500	-7	4,400	-20
Higher education:					
Degree-credit	3,583	7,920	121	12,050	52
Public	2,116	5,800	174	9,762	68
Private	1,467	2,120	45	2,288	8
4-year	3,131	6,290	101	9,049	44
2-year	451	1,630	261	3,001	84
Undergraduate	3,227	7,020	118	10,551	50
First time	923	1,775	92	2,427	37
Graduate	356	900	153	1,499	67
Men	2,257	4,637	105	6,587	42
Women	1,326	3,284	148	5,463	66
Full-time	2,466	5,489	123	7,901	44
Part-time	1,117	2,431	118	4,149	71
Full-time equivalent	2,835	6,299	122	9,284	47
Non-degree-credit	206	661	221	1,227	86
Public	161	628	290	1,190	89
Private	46	33	-28	36	9

See footnotes at end of table.

Table 1.—Summary of trends in education: United States, 1960-61 to 1980-81—Continued

Characteristic	Fall 1960-61	Fall 1970-71	Percent change, 1960 to 1970	Fall 1980-81 (projected)	Percent change, 1970 to 1980
	Thousands			Thousands	
High school graduates	1,971	3,036	54	3,340	10
Public	1,732	2,726	57	3,030	11
Nonpublic	239	310	30	310	0
Men	958	1,506	57	1,680	12
Women	1,013	1,530	51	1,660	8
Percent of 18-year-olds graduating from high school	69.6	77.2	–	83.7	–
Percent of high school graduates going on to college	51.6	62.3	–	72.3	–
Earned degrees:					
Bachelor's and first-professionals	395	863	118	1,334	55
Men	253	501	98	713	42
Women	142	362	155	620	71
Master's	81.7	224.0	174	395.9	77
Men	55.4	133.6	141	227.0	70
Women	26.4	90.4	242	168.9	87
Doctor's	10.6	32.0	202	68.7	115
Men	9.5	27.6	191	58.2	111
Women	1.1	4.4	300	10.5	139
Elementary and secondary instructional staff:	Fall 1960	Fall 1970		Fall 1980	
Classroom teachers	1,600	2,312	44	2,349	2
Elementary	991	1,295	31	1,305	1
Secondary	609	1,017	67	1,044	3
Public	1,408	2,061	46	2,134	4
Elementary	858	1,132	32	1,178	4
Secondary	550	929	69	956	3
Nonpublic	192	251	31	215	-14
Other instructional staff (public)[1]	117	258	121	320	24

See footnotes at end of table.

Table 1.—Summary of trends in education: United States, 1960-61 to 1980-81—Continued

Characteristic	Fall 1960-61	Fall 1970-71	Percent change, 1960 to 1970	Fall 1980-81 (projected)	Percent change, 1970 to 1980
	Thousands			Thousands	
Higher education instructional staff, resident courses	276	590	114	873	48
Full-time equivalent	202	468	132	693	48

Characteristic	Unadjusted dollars in—		Constant 1970-71 dollars in 1980-81
	1960-61	1970-71	
Total expenditures by regular educational institutions:[2]	Billions of dollars		
All levels	$27.1	$77.9	$105.3
Public	21.2	62.9	86.2
Nonpublic	5.9	15.0	19.1
Elementary and secondary schools	19.4	49.8	59.7
Public	17.0	44.4	54.2
Nonpublic	2.4	5.4	5.5
Institutions of higher education	7.7	28.1	45.6
Public	4.2	18.5	32.0
Nonpublic	3.5	9.6	13.6
Current expenditure per pupil in average daily attendance in public elementary-secondary schools . .	Dollars		
	$396	$858	$1,092
Estimated average charges per full-time undergraduate degree-credit student:			
Tuition and required fees:			
Public	211	344	419
Private	857	1,649	2,193
Board:			
Public	421	534	534
Private	470	588	588
Dormitory rooms			
Public	218	395	497
Private	275	475	601

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[1] Other instructional staff includes principals, supervisors, librarians, and guidance and psychological personnel.

[2] Includes current expenditures, interest, and capital outlay.

NOTE.—Data are for the 50 States and the District of Columbia. Because of rounding, detail may not add to totals.

CHAPTER II

Enrollment

Alice R. Pool and Martin M. Frankel

All levels (table 2)

Total fall enrollment (elementary, secondary, and higher education) increased from 46 million in 1960 to 60 million in 1970 and is expected to be 62 million in 1980. These totals include daytime enrollment in all regular public and nonpublic (parochial and nonsectarian) elementary and secondary schools; degree-credit enrollment in publicly and privately controlled institutions of higher education in programs leading to a bachelor's or higher degree; and non-degree-credit enrollment in programs that extend not more than 3 years beyond high school and are designed to prepare for technical, semiprofessional, or craftsman-clerical positions.

Excluded from the enrollments in institutions of higher education are adult education courses of regular length, short courses of any kind, and correspondence, television, or radio courses, some of which are degree-credit courses. Excluded from the enrollments in elementary and secondary schools are: (1) those in public and nonpublic subcollegiate, vocational, technical, and trade schools, unless these are a part of the regular school system; (2) enrollment in evening classes in regular public schools; and (3) enrollment in elementary and secondary grades in public and nonpublic residential schools for exceptional children, Federal schools for Indians, federally operated schools on Federal installations, and subcollegiate departments of public and nonpublic institutions of higher education. These enrollments also exclude children aged 3 to 6 years enrolled in independent public and nonpublic nursery schools and kindergartens (exclusively preprimary schools). However, estimates of the latter enrollment are shown in table 2 as a separate item.

The projection of fall enrollments shown in table 2 is based on the following assumptions: (1) the percentage of school-age persons enrolling in school will continue the 1960 to 1970 trends; (2) the retention rates in public elementary and secondary schools will remain constant at the 1969 to 1970 levels; and (3) the series D school-age populations on which the projections are based will remain through 1980 substantially as now estimated and projected by the Bureau of the Census. These population bases are shown in appendix B, tables B-1 and B-2.

Elementary and secondary day schools (tables 3, 4)

Fall enrollment in regular elementary and secondary day schools increased from 42 million in 1960 to 51 million in 1970, and is expected to decrease to approximately 49 million in 1980. The 1970 enrollment excludes an estimated total of 300,000 enrolled in public and nonpublic schools such as residential schools for exceptional children, subcollegiate departments of public and nonpublic institutions of higher education, Federal schools for Indians, and federally operated schools on Federal installations. It also excludes an estimated 1.6 million between the ages of 3 and 6 years enrolled in independent nursery schools and kindergartens and an estimated 1.5 million in "special" (mostly business and trade) schools.[1]

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[1] U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, "Population Characteristics, School Enrollment: October 1969," Series P-20, No. 206, October 5, 1970.

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Enrollment in grades nine through 12 is expected to increase by about 800,000 between 1970 and 1976 and then begin to decrease as the children born after 1960, when births began to decline, progress through high school. Total enrollment in grades nine through 12 rose from 9.7 million in 1960 to 14.7 million in 1970 and is expected to be 14.4 million in 1980.

Enrollment in kindergarten through grade eight is expected to decrease by almost 3.2 million between 1970 and 1976 and then begin a slow upward climb as the increasing numbers of women in the childbearing ages offset the decreasing fertility rates. (The fertility rate is defined as the average number of children born per 1,000 women between the ages of 15 and 45 years.) The proportion of children of elementary school age who are enrolled in school is already so high (about 99 percent, if 5-year-olds are excluded) that any increase in enrollment rates for this age group will be minimal. Enrollment in kindergarten through grade eight increased from about 32 million in 1960 to 37 million in 1970 but is expected to be less than 35 million in 1980.

Enrollment in schools organized as secondary (see appendix A, "Glossary," for definition of elementary and secondary schools) increased from 13 million in 1960 to nearly 20 million in 1970 and is expected to remain at about 20 million through 1980. The enrollment in secondary schools is larger than the enrollment in grades nine through 12 as shown in tables 3 and 4 because it includes the enrollment in grades seven and eight in junior high schools with all of the grades nine through 12 enrollment. It may be even higher than it appears to be in table 4 because some State departments of education report only by grade even though some of their schools are organized on an elementary and secondary basis.

The reported enrollment in elementary schools is smaller than that in kindergarten through grade eight (tables 3 and 4) because it excludes enrollment in grades seven and eight in junior high schools. The enrollment in elementary schools increased from 29 million in 1960 to nearly 32 million in the years 1965-70, but is expected to be less than 30 million in 1980.

Public school enrollment (tables 3, 4)

Projections of enrollment in regular public day schools are shown in table 3 by grade group and in table 4 by organizational level.

The public school enrollment by grade was projected for each grade separately and then summed to obtain the projections by grade group. The projections by grade were derived (1) by applying projected age-specific enrollment rates to 5- and 6-year-olds (Bureau of the Census population series D) and (2) by applying projected grade-retention rates to children in grades one through 11.

It should be noted that children entering kindergarten through fall 1975 and first grade through fall 1976 are already born; thus the number is not dependent on assumed fertility rates. By 1980, the last year shown in the tables, only projections of kindergarten through grade five depend on assumed fertility rates. For an explanation of the fertility rates used by the Bureau of the Census for projecting series D population, see appendix B, table B-1 footnotes.

The enrollment in regular public day schools by organizational level was derived by assuming that the percentages of the seventh- and eighth-grade enrollment organized as secondary school enrollment will continue to increase as it has in the past 10 years.

For a more detailed description of the assumptions and methods used in projecting public school enrollment, see footnotes to tables 3 and 4 and appendix A, table A-1.

Nonpublic school enrollment (tables 3, 4)

About 10 percent of regular day school enrollment (K-12) is now in nonpublic schools, mostly (about 82 percent) in Catholic schools. Catholic schools have experienced decreases in enrollment for the past few years. However, some of these losses in nonpublic schools are now being offset by the shift of white students, especially in the southeastern portion of the Nation, from public to nonpublic schools. As a result of these opposing enrollment shifts, the projection of nonpublic school enrollment by conventional trend methods is not feasible. The projections by grade group included in table 3 are, therefore, estimates based on the scanty information available to the Office of Education at this time. (Enrollment shifts will not affect the projected total of public and nonpublic enrollment.)

The enrollments in nonpublic schools by organizational level shown in table 4 are the same as those by grade group shown in table 3 because almost all the nonpublic school seventh- and eighth-graders in the past have been in the elementary schools.

Institutions of higher education (table 5)

Fall enrollment in both 4-year and 2-year institutions of higher education includes resident and extension, day and evening, full-time and part-time students who are (1) taking work creditable toward a bachelor's or higher degree or (2) in occupational or general studies programs not chiefly creditable toward a bachelor's degree but preparing for a technical, semiprofessional, or craftsman-clerical position. The total enrollment increased from a partially estimated 3.8 million in 1960 to 8.6 million in 1970 and is expected to be over 13 million in 1980, of which about 9 percent is expected to be in occupational or general studies.

Degree-credit enrollment (tables 6-8, 13)

Opening fall enrollment in courses creditable toward a bachelor's or higher degree increased from 3.6 million in 1960 to 7.9 million in 1970 and is expected to climb to 12.0 million by 1980. These figures include graduate, undergraduate, and first-professional enrollment in degree-credit courses in both 4-year and 2-year institutions.

During the next decade, almost all of the expected 4.1 million increase in enrollment will be in public institutions and women will account for over one-half of enrollment increases.

Of the 12.0 million students expected to be taking work toward a bachelor's or higher degree in 1980, 1.5 million, or 12 percent, are expected to be taking graduate work beyond the bachelor's or first-professional level. Of the 10.5 million taking work creditable toward undergraduate or first-professional degrees, about one-fourth will be entering college for the first time. (See p. 16 and table 13 .)

Projected totals of opening fall degree-credit enrollment by sex and attendance status and by control of institution attended are shown in table 6 for all institutions of higher education, in table 7 for 4-year institutions, and in table 8 for 2-year institutions. The projections were made separately for men and women by type and control of institution attended and summed to get the totals shown in the tables. The projections are based on the assumption that the percentage of college-age people enrolled in college in each of the aforementioned enrollment categories will continue to increase from 1970 to 1980 as it did from 1960 to 1970. Attendance status was projected separately in each enrollment category and for graduate and undergraduate enrollment. The projections are based on the assumption that the percentage of full-time enrollment in each enrollment category will follow the 1960-70 trend to 1980.

Non-degree-credit enrollment (tables 9-11)

Opening fall enrollment in non-degree-credit courses (occupational or general studies programs) in all institutions of higher education rose from an estimated 206,000 in 1960 to 661,000 in 1970 and is expected to be 1.2 million in 1980. Ninety-five percent of this enrollment was in publicly controlled institutions in 1970. Almost half of it was full-time, and about 90 percent was in 2-year institutions. (These enrollments were shown for 4-year and 2-year institutions separately for the first time in the 1969 edition of this report series.)

The projection of non-degree-credit enrollment is based on the assumption that, within the categories of sex of student and control and type of institution, non-degree-credit enrollment expressed as a percentage of the population 18-21 years of age will follow the 1960 to 1970 trends. Full-time attendance status was projected by holding constant to 1980 the percentage of non-degree-credit enrollment that was full time in 1970.

Full-time-equivalent enrollment (table 12)

Estimated full-time-equivalent opening fall enrollment in degree-credit and non-degree-credit courses increased from 3.0 million in 1960 to 6.7 million in 1970 and is expected to be 10.1 million in 1980. Of this enrollment, 73 percent was in publicly controlled institutions in 1970, and is expected to rise to 81 percent in 1980. Of the 1980 full-time-equivalent enrollment, 92 percent is expected to be in degree-credit courses.

The estimate of full-time-equivalent degree-credit enrollment is based on 33 percent of part-time degree-credit enrollment plus full-time degree-credit enrollment. Full-time-equivalent non-degree-credit enrollment is based on 28 percent of part-time non-degree-credit enrollment plus full-time non-degree-credit enrollment. These percentages for converting part-time enrollment to the full-time equivalent of part-time enrollment were taken from the 1964 sample survey of full-time-equivalent enrollment and credit hours.

Degree-credit enrollment by level (table 13)

Degree-credit enrollment data are available for three levels either directly from reports or by supplemental estimates. Those levels are first-time enrollment (first time enrolled in any institution of higher education), undergraduate and first-professional enrollment combined, and graduate enrollment. (First-time enrollment, shown separately in tables 14, 15, and 16, is also included with undergraduate and first-professional enrollment, tables 18 and 19, and with enrollment in 2-year institutions, table 8.) Table 13 summarizes the relationships by type of institution of the different levels of degree-credit enrollment.

First-time degree-credit enrollment (tables 14, 15, 16)

First-time opening fall enrollment in degree-credit courses increased from 923,000 in 1960 to 1.8 million in 1970, and is expected to be 2.4 million in 1980. Seventy-five percent of this enrollment was in publicly controlled institutions in 1970, compared to 63 percent in 1960. Four-fifths of first-time enrollment in 1970 was full time.

Projected first-time degree-credit enrollment in all institutions of higher education is shown in table 14. It is based on the assumption that first-time enrollment by sex and by control and type of institution, as a percentage of the population averaging 18 years of age, will continue the 1960 to 1970 trends. The projections are shown separately for 4-year and 2-year institutions in tables 15 and 16.

Resident graduate enrollment (table 17)

Estimated resident graduate enrollment increased from 356,000 in 1960 to 900,000 in 1970 and is expected to be 1.5 million in 1980. These estimates and projections are confined to resident graduate students because we had no separate data on extension graduate students until 1969.

Extension graduate students are included with resident and extension undergraduate and first-professional students in tables 18 and 19. In 1969 and 1970, the 2 years for which data on extension graduate students were collected, there were about 127,000 and 139,000 extension graduate students, respectively. For both years these enrollments represent approximately 15 percent of resident graduate enrollment. The estimates of resident graduate enrollment through 1968 were derived from several sources. The principal sources were the comprehensive surveys of 1959, 1961, 1963, and 1967, and the opening fall enrollment surveys of 1960 through 1969. The full-time and part-time attendance status estimates for 1967 were based on the unpublished 1967 comprehensive survey of enrollment and the 1967 opening fall survey of enrollment. For a detailed statement of the methods used in estimating graduate enrollment, see appendix A, "Estimation Methods," sections 3a, 3b, 3h, and 3g.

The projection of graduate enrollment was based on the assumption that the trends shown from 1960 to 1970 for estimated resident graduate enrollment as a percentage of all degree-credit enrollment in 4-year institutions will continue to 1980. It is assumed that full-time graduate enrollment as a percentage of all graduate enrollment will follow the 1960-70 trend to 1980.

Undergraduate and first-professional enrollment (tables 18, 19)

Undergraduate and first-professional enrollment in 4-year institutions was estimated by subtracting estimated resident graduate enrollment from the estimated total of opening fall degree-credit resident and extension enrollment in these institutions.

Estimated undergraduate and first-professional enrollment (table 19) in 4-year institutions rose from 2.8 million in 1960 to 5.4 million in 1970 and, on the basis of the 1960 to 1970 trend, is expected to be 7.6 million in 1980. Undergraduate enrollment in 2-year institutions (table 8) more than tripled from 1960 to 1970 (451,000 to 1.6 million), and is expected to reach 3.0 million by 1980.

Table 2.–Summary of enrollment in educational institutions, by institutional level and control: United States, fall 1960 to 1980

[In thousands]

Year (fall)	Total enrollment (excluding independent nursery schools and kindergartens)			Institutions of higher education[1]		Regular elementary and secondary day schools[2]				Estimated independent nursery schools and kindergartens[3]	
						Grades K-8		Grades 9-12			
	Total	Public	Nonpublic	Public	Nonpublic	Public	Nonpublic	Public	Nonpublic	Public	Nonpublic
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1960	45,969	38,557	7,412	2,276	1,512	27,692	4,800	8,589	1,100	.....	.....
1961	47,411	39,933	7,478	2,469	1,578	28,095	4,800	9,369	1,100	.....	.....
1962	49,253	41,502	7,751	2,753	1,651	28,637	4,900	10,112	1,200	.....	.....
1963	51,253	43,253	8,000	3,066	1,700	29,304	5,000	10,883	1,300	.....	.....
1964	52,996	44,884	8,112	3,468	1,812	30,025	5,000	11,391	1,300	236	649
1965	54,394	46,143	8,251	3,970	1,951	30,563	4,900	11,610	1,400	305	799
1966	55,629	47,388	8,241	4,349	2,041	31,145	4,800	11,894	1,400	374	842
1967	56,803	48,707	8,096	4,816	2,096	31,641	4,600	12,250	1,400	467	897
1968	58,257	50,375	7,882	5,431	2,082	32,226	4,400	12,718	1,400	437	920
1969	59,313	51,605	7,708	5,986	2,108	32,597	4,200	13,022	1,400	326	1,033
1970	59,985	52,332	7,653	6,428	2,153	32,574	4,100	13,330	1,400	423	1,130
	PROJECTED[4]										
1971	60,305	52,788	7,517	6,988	2,217	32,200	3,900	13,600	1,400	483	1,193
1972	60,573	53,111	7,462	7,511	2,262	31,800	3,800	13,800	1,400	555	1,300
1973	60,707	53,312	7,395	8,012	2,295	31,300	3,700	14,000	1,400	645	1,432
1974	60,768	53,438	7,330	8,538	2,330	30,800	3,600	14,100	1,400	727	1,603
1975	60,740	53,576	7,164	9,076	2,364	30,400	3,400	14,100	1,400	869	1,801
1976	60,942	53,860	7,082	9,560	2,382	30,200	3,300	14,100	1,400	972	2,014
1977	61,296	54,307	6,989	10,007	2,389	30,300	3,200	14,000	1,400	1,103	2,225
1978	61,571	54,690	6,881	10,390	2,381	30,500	3,100	13,800	1,400	1,235	2,446
1979	61,954	55,197	6,757	10,697	2,357	31,000	3,000	13,500	1,400	1,370	2,673
1980	62,477	55,753	6,724	10,953	2,324	31,800	3,000	13,000	1,400	1,507	2,902

[1] Includes degree-credit and non-degree-credit enrollments.

[2] Does not include independent nursery schools and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, and schools on Federal installations.

[3] Estimates of independent nursery school and kindergarten enrollments are based on the difference between all nursery school and kindergarten enrollments of children aged 3, 4, 5, and 6 years, as reported by the Bureau of the Census, and nursery school and kindergarten enrollments reported by the regular public and private schools.

[4] For assumptions on which projections of elementary, secondary, and higher education enrollments are based and for projection methods used, see footnotes to tables 3, 6, and 9, and methodology in appendix A, table A-1.

The projections of enrollments in independent nursery schools and kindergartens are based on the following assumptions: (1) Enrollments in all nursery schools and kindergartens of children aged 3, 4, 5, and 6 years will follow the 1964-70 trends of enrollment in these schools at each age level as a percentage of the total population of that age and (2) enrollments in independent nursery schools and kindergartens of children aged 3, 4, 5, and 6 years will be the difference between enrollment in all nursery schools and kindergartens, as reported by the Census Bureau, and enrollment in nursery schools and kindergartens reported by regular public and private schools.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Nursery school and kindergarten enrollment data are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Nursery-Kindergarten Enrollment of Children under Six*, October 1964 through 1966; (2) *Preprimary Enrollment of Children under Six*, October 1967 and 1968; and (3) *Preprimary Enrollment*, October 1969 and 1970.

Table 3.—Enrollment in grades K-8 and 9-12 of regular day schools, by institutional control: United States, fall 1960 to 1980[1]

[In thousands]

Year (fall)	Total public and nonpublic			Public			Nonpublic (estimated)[2]		
	K-12	K-8	9-12	K-12	K-8[3]	9-12[3]	K-12	K-8	9-12[4]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960.......	42,181	32,492	9,689	36,281	27,692	8,589	5,900	4,800	[5] 1,100
1961.......	43,364	32,895	10,469	37,464	28,095	9,369	5,900	[5] 4,800	[5] 1,100
1962.......	44,849	33,537	11,312	38,749	28,637	10,112	6,100	4,900	1,200
1963.......	46,487	34,304	12,183	40,187	29,304	10,883	6,300	5,000	[5] 1,300
1964.......	47,716	35,025	12,691	41,416	30,025	11,391	6,300	5,000	[5] 1,300
1965.......	48,473	35,463	13,010	42,173	30,563	11,610	6,300	[5] 4,900	[5] 1,400
1966.......	49,239	35,945	13,294	43,039	31,145	11,894	6,200	4,800	1,400
1967.......	49,891	36,241	13,650	43,891	31,641	12,250	6,000	4,600	1,400
1968.......	50,744	36,626	14,118	44,944	32,226	12,718	5,800	[5] 4,400	[5] 1,400
1969.......	51,219	36,797	14,422	45,619	32,597	13,022	5,600	4,200	1,400
1970.......	51,404	36,674	14,730	45,904	32,574	13,330	5,500	4,100	1,400
				PROJECTED[6]					
1971.......	51,200	36,100	15,000	45,900	32,200	13,600	5,300	3,900	1,400
1972.......	50,800	35,600	15,200	45,600	31,800	13,800	5,200	3,800	1,400
1973.......	50,400	35,000	15,400	45,300	31,300	14,000	5,100	3,700	1,400
1974.......	49,900	34,400	15,500	44,900	30,800	14,100	5,000	3,600	1,400
1975.......	49,300	33,800	15,500	44,500	30,400	14,100	4,800	3,400	1,400
1976.......	49,000	33,500	15,500	44,300	30,200	14,100	4,700	3,300	1,400
1977.......	48,900	33,500	15,400	44,300	30,300	14,000	4,600	3,200	1,400
1978.......	48,800	33,600	15,200	44,300	30,500	13,800	4,500	3,100	1,400
1979.......	48,900	34,000	14,900	44,500	31,000	13,500	4,400	3,000	1,400
1980.......	49,200	34,800	14,400	44,800	31,800	13,000	4,400	3,000	1,400

[1] Does not include independent nursery schools and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, schools on Federal installations, and other schools not in the regular school system.

[2] Estimated unless otherwise noted. Estimates for years prior to 1965 revised in spring 1968 on basis of 1965 Office of Education survey.

[3] Fall enrollment in public schools not reported by grade prior to 1962; grade breakdown for years 1960 and 1961 estimated from school year enrollment.

[4] Includes some pupils enrolled in grades 7 and 8 of nonpublic secondary schools in 1965 through 1968.

[5] Actual data from Office of Education surveys.

[6] The projection of fall enrollment in regular day schools is based on the following assumptions: (1) Enrollment rates of the 5- and 6-year-old population in public school kindergarten and grade 1 will follow the 1960-70 trends; (2) the public school enrollment in grade 7 in a given year t will exceed the public school enrollment in grade 6 in year t-1 by 2.7 percent of the projected enrollment in grades K-8 in Catholic elementary schools in year t-1; (3) the public school enrollment in grade 9 in year t will exceed the public school enrollment in grade 8 in year t-1 by 3.8 percent of the projected enrollment in grades K-8 in Catholic elementary schools in year t-1; (4) the retention rates of all other public school grades will remain constant at the 1969 to 1970 levels; (5) enrollments in grades K-8 in Catholic elementary schools will decrease from 3.4 million in 1970 to 2.0 million in 1980; and (6) enrollments in grades K-8 in all regular nonpublic day schools will decrease through 1980 while grades 9-12 in these schools will remain constant at the 1968 level.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on (1) U.S. Department of Health, Education, and Welfare, Office of Education publications: (a) *Statistics of Public Schools,* fall 1964 through 1970 (b) *Enrollment, Teachers, and Schoolhousing,* fall 1959 through 1963; (c) *Statistics of State School Systems,* 1959-60 and 1961-62; (d) prepublication data from *Statistics of Nonpublic Elementary and Secondary Schools, 1968-69;* (e) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66;* (f) *Nonpublic*

School Enrollment in Grades 9-12, Fall 1964, and Graduates, 1963-64; (g) *Statistics of Nonpublic Elementary Schools, 1961-62;* (h) *Statistics of Nonpublic Secondary Schools, 1960-61;* and (2) National Catholic Educational Association: *A Report on U.S. Catholic Schools, 1970-71.*

The population projections as of October 1, of 5- and 6-year-olds on which the enrollment projections in kindergarten and grade 1 are based, are consistent with series D population projections in: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports,* Series P-25, No. 470, November 1971. The C, D, and E population projections, together with definitions of each series, are shown in appendix B, table B-1.

For enrollment projections based on population projection series C and series E, see appendix B, tables B-3 and B-4.

Table 4.—Enrollment in regular day schools, by institutional control and organizational level: United States, fall 1960 to 1980[1]

[In thousands]

Year (fall)	Total public and nonpublic			Public			Nonpublic (estimated)[2]		
	K-12	Elementary	Secondary	K-12	Elementary	Secondary	K-12	Elementary	Secondary
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960	42,181	29,150	13,031	36,281	24,350	11,931	5,900	4,800	[3] 1,100
1961	43,364	29,403	13,961	37,464	24,603	12,861	5,900	[3] 4,800	[3] 1,100
1962	44,849	30,164	14,685	38,749	25,264	13,485	6,100	4,900	1,200
1963	46,487	30,775	15,712	40,187	25,775	14,412	6,300	5,000	[3] 1,300
1964	47,716	31,221	16,495	41,416	26,221	15,195	6,300	5,000	[3] 1,300
1965	48,473	31,570	16,904	42,173	26,670	15,504	6,300	[3] 4,900	[3] 1,400
1966	49,239	31,905	17,334	43,039	27,105	15,934	6,200	4,800	1,400
1967	49,891	31,972	17,919	43,891	27,372	16,519	6,000	4,600	1,400
1968	50,744	31,763	18,981	44,944	27,363	17,581	5,800	[3] 4,400	[3] 1,400
1969	51,219	31,655	19,563	45,619	27,455	18,163	5,600	4,200	1,400
1970	51,404	31,597	19,807	45,904	27,497	18,407	5,500	4,100	1,400
				PROJECTED[4]					
1971	51,200	30,900	20,200	45,900	27,000	18,800	5,300	3,900	1,400
1972	50,800	30,300	20,600	45,600	26,500	19,200	5,200	3,800	1,400
1973	50,400	29,500	20,800	45,300	25,800	19,400	5,100	3,700	1,400
1974	49,900	28,900	21,000	44,900	25,300	19,600	5,000	3,600	1,400
1975	49,300	28,300	21,000	44,500	24,900	19,600	4,800	3,400	1,400
1976	49,000	28,000	21,000	44,300	24,700	19,600	4,700	3,300	1,400
1977	48,900	28,100	20,800	44,300	24,900	19,400	4,600	3,200	1,400
1978	48,800	28,400	20,400	44,300	25,300	19,000	4,500	3,100	1,400
1979	48,900	28,900	19,900	44,500	25,900	18,500	4,400	3,000	1,400
1980	49,200	29,700	19,500	44,800	26,700	18,100	4,400	3,000	1,400

[1] Does not include independent nursery schools and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, schools on Federal installations, and other schools not in the regular school system.

[2] Estimated unless otherwise noted. Estimates for years prior to 1965 revised in spring 1968 on basis of 1965 Office of Education survey.

[3] Actual data from Office of Education surveys.

[4] The projection of fall enrollment in regular public day schools by organizational level is based on the assumption that the percentage of enrollment in grades 7 and 8 that will be organized as elementary and as secondary enrollment will follow the 1960-70 trend.

The projection of regular fall enrollment in nonpublic schools by organizational level is based on the assumption that substantially all nonpublic enrollment in grades 7 and 8 will continue as elementary enrollment.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on (1) U.S. Department of Health, Education, and Welfare, Office of Education publications: (a) *Statistics of Public Schools,* fall 1964 through 1970 (b) *Enrollment, Teachers, and Schoolhousing,* fall 1959 through 1963; (c) *Statistics of State School Systems,* 1959-60 and 1961-62; (d) prepublication data from *Statistics of Nonpublic Elementary and Secondary Schools, 1968-69; (e) Statistics of Nonpublic Elementary and Secondary Schools, 1965-66; (f) Nonpublic School Enrollment in Grades 9-12, Fall 1964, and Graduates, 1963-64; (g) Statistics of Nonpublic Elementary Schools, 1961-62;* (h) *Statistics of Nonpublic Secondary Schools, 1960-61;* and (2) National Catholic Educational Association: *A Report on U.S. Catholic Schools, 1970-71.*

Table 5.—Summary of enrollment in all institutions of higher education, by degree-credit status and institutional type: United States, fall 1960 to 1980

[Resident and extension opening fall enrollment—in thousands]

Year (fall)	Total degree-credit and non-degree-credit enrollment	Degree-credit			Non-degree-credit		
		Total	4-year	2-year	Total	4-year	2-year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	3,789	3,583	3,131	451	206	40	166
1961	4,047	3,861	3,343	518	186	38	148
1962	4,404	4,175	3,585	590	229	45	184
1963	4,766	4,495	3,870	625	271	52	220
1964	5,280	4,950	4,239	711	330	52	278
1965	5,921	5,526	4,685	841	395	63	332
1966[1]	6,390	5,928	4,984	945	462	80	381
1967[1]	6,912	6,406	5,325	1,081	505	73	432
1968	7,513	6,928	5,639	1,289	585	82	503
1969	8,094	7,484	5,956	1,528	610	72	537
1970	8,581	7,920	6,290	1,630	661	68	593
	PROJECTED[2]						
1971	9,205	8,475	6,684	1,791	731	74	656
1972	9,773	8,980	7,036	1,945	793	74	719
1973	10,307	9,456	7,361	2,095	851	73	778
1974	10,868	9,955	7,702	2,253	913	72	840
1975	11,440	10,463	8,048	2,415	977	71	905
1976	11,942	10,906	8,343	2,563	1,036	70	966
1977	12,396	11,305	8,603	2,702	1,091	68	1,023
1978	12,771	11,628	8,808	2,821	1,143	68	1,075
1979	13,054	11,867	8,948	2,919	1,187	68	1,119
1980	13,277	12,050	9,049	3,001	1,227	68	1,159

[1] The breakdown between degree-credit and non-degree-credit enrollment in 1966 and 1967 is estimated. See appendix A, "Estimation Methods," sections 3d-3g.

[2] For assumptions underlying these projections and for methods of projecting, see footnotes to tables 6 and 9, and table A-1 in appendix A.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1960 through 1968; (3) data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 (unpublished); and (4) *Resident and Extension Enrollment in Institutions of Higher Education,* first term 1959 and 1961.

Table 6.—Total degree-credit enrollment in all institutions of higher education, by sex, by attendance status, and by institutional control: United States, fall 1960 to 1980

[Resident and extension opening fall enrollment]

Year (fall)	Total degree-credit enrollment[1]	Sex		Attendance status[2]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	3,582,726	2,256,877	1,325,849	2,466,000	1,117,000	2,115,893	1,466,833
1961	3,860,643	2,408,601	1,452,042	2,714,000	1,147,000	2,328,912	1,531,731
1962	4,174,936	2,587,291	1,587,645	2,902,101	1,272,835	2,573,720	1,601,216
1963	4,494,626	2,772,562	1,722,064	3,068,469	1,426,157	2,848,454	1,646,172
1964	4,950,173	3,032,992	1,917,181	3,417,796	1,532,377	3,179,527	1,770,646
1965	5,526,325	3,374,603	2,151,722	3,909,987	1,616,338	3,624,442	1,901,883
1966[3]	5,928,000	3,577,000	2,351,000	4,225,000	1,703,000	3,940,000	1,988,000
1967[3]	6,406,000	3,822,000	2,584,000	4,556,000	1,850,000	4,360,000	2,046,000
1968	6,928,115	4,119,002	2,809,113	4,937,193	1,990,922	4,891,743	2,036,372
1969	7,484,073	4,419,147	3,064,926	5,253,755	2,230,318	5,414,934	2,069,139
1970	7,920,149	4,636,641	3,283,508	5,489,033	2,431,116	5,800,089	2,120,060
			PROJECTED[4]				
1971	8,475,000	4,921,000	3,553,000	5,834,000	2,640,000	6,291,000	2,183,000
1972	8,980,000	5,178,000	3,802,000	6,145,000	2,836,000	6,753,000	2,228,000
1973	9,456,000	5,415,000	4,041,000	6,432,000	3,024,000	7,196,000	2,260,000
1974	9,955,000	5,661,000	4,294,000	6,732,000	3,223,000	7,660,000	2,295,000
1975	10,463,000	5,911,000	4,552,000	7,036,000	3,427,000	8,135,000	2,329,000
1976	10,906,000	6,121,000	4,785,000	7,293,000	3,613,000	8,560,000	2,346,000
1977	11,305,000	6,301,000	5,003,000	7,519,000	3,785,000	8,952,000	2,353,000
1978	11,628,000	6,438,000	5,190,000	7,696,000	3,932,000	9,283,000	2,345,000
1979	11,867,000	6,527,000	5,340,000	7,816,000	4,051,000	9,546,000	2,321,000
1980	12,050,000	6,587,000	5,463,000	7,901,000	4,149,000	9,762,000	2,288,000

[1] Beginning in 1966, some students previously reported as non-degree-credit are reported as degree-credit students.

[2] Estimated for years prior to 1962. See appendix A, "Estimation Methods," section 3a.

[3] The breakdown between degree-credit and non-degree-credit enrollment in 1966 and 1967 is estimated. See appendix A, "Estimation Methods," sections 3d and 3f.

These estimates differ from the estimates published in the 1968 edition of *Projections of Educational Statistics* because of data available from the 1967 comprehensive report of enrollment and revisions in the 1966 comprehensive data for 4-year institutions.

[4] The projection of total degree-credit enrollment in all institutions by sex and institutional control is based on the assumption that enrollment in these institutions, expressed as a percentage of population aged 18-21 years, will follow the 1960-70 trend to 1980 in each enrollment category.

The projection of total degree-credit enrollment by attendance status is based on the assumption that full-time enrollment, expressed as a percentage of total enrollment, will follow the 1960-70 trend to 1980 in each enrollment category.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projections.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. To obtain projections for the United States and outlying areas, multiply each projection in this table by 1.008. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1960 through 1968; (3) unpublished data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 and 1967; and (4) *Resident and Extension Enrollment in Institutions of Higher Education,* first term 1959 and 1961.

Population on which projections are based is shown in appendix B, table B-2.

Table 7.—Total degree-credit enrollment in 4-year institutions of higher education, by sex, by attendance status, and by institutional control: United States, fall 1960 to 1980

[Resident and extension opening fall enrollment]

Year (fall)	Total degree-credit enrollment[1]	Sex		Attendance status[2]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	3,131,393	1,974,722	1,156,671	2,219,000	912,000	1,723,583	1,407,810
1961	3,342,718	2,088,445	1,254,273	2,421,000	922,000	1,872,531	1,470,187
1962	3,585,407	2,221,667	1,363,740	2,584,908	1,000,499	2,054,463	1,530,944
1963	3,869,837	2,385,902	1,483,935	2,741,251	1,128,586	2,297,146	1,572,691
1964	4,239,305	2,593,483	1,645,822	3,021,411	1,217,894	2,558,668	1,680,637
1965	4,684,888	2,852,757	1,832,131	3,414,535	1,270,353	2,886,552	1,798,336
1966[3]	4,984,000	3,000,000	1,984,000	3,662,000	1,322,000	3,100,000	1,883,000
1967[3]	5,325,000	3,170,000	2,155,000	3,940,000	1,385,000	3,393,000	1,933,000
1968	5,638,616	3,336,709	2,301,907	4,198,486	1,440,130	3,722,602	1,916,014
1969	5,955,644	3,508,516	2,447,128	4,404,620	1,551,024	4,002,324	1,953,320
1970	6,290,167	3,682,680	2,607,487	4,613,188	1,676,979	4,280,327	2,009,840
	PROJECTED[4]						
1971	6,684,000	3,881,000	2,803,000	4,876,000	1,808,000	4,615,000	2,070,000
1972	7,036,000	4,056,000	2,980,000	5,107,000	1,929,000	4,925,000	2,111,000
1973	7,361,000	4,214,000	3,147,000	5,317,000	2,044,000	5,220,000	2,141,000
1974	7,702,000	4,379,000	3,324,000	5,536,000	2,166,000	5,529,000	2,173,000
1975	8,048,000	4,545,000	3,503,000	5,757,000	2,291,000	5,844,000	2,204,000
1976	8,343,000	4,681,000	3,662,000	5,939,000	2,404,000	6,124,000	2,220,000
1977	8,603,000	4,794,000	3,809,000	6,095,000	2,508,000	6,378,000	2,225,000
1978	8,808,000	4,875,000	3,933,000	6,212,000	2,596,000	6,591,000	2,217,000
1979	8,948,000	4,920,000	4,028,000	6,283,000	2,665,000	6,756,000	2,193,000
1980	9,049,000	4,945,000	4,104,000	6,327,000	2,722,000	6,888,000	2,161,000

[1] Beginning in 1966, some students previously reported as non-degree-credit are reported as degree-credit students.

[2] Estimated for years prior to 1962. See appendix A, "Estimation Methods," section 3a.

[3] The breakdown between degree-credit and non-degree-credit enrollment in 1966 and 1967 is estimated. See appendix A, "Estimation Methods," sections 3d and 3f.

These estimates differ from the estimates published in the 1968 edition of *Projections of Educational Statistics* because of data available from the 1967 comprehensive report of enrollment and revisions in the 1966 comprehensive data for 4-year institutions.

[4] The projection of total degree-credit enrollment in 4-year institutions by sex and institutional control is based on the assumption that enrollment in these institutions, expressed as a percentage of population aged 18-21 years, will follow the 1960-70 trend to 1980 in each enrollment category.

The projection of total degree-credit enrollment by attendance status is based on the assumption that full-time enrollment, expressed as a percentage of total enrollment, will follow the 1960-70 trend to 1980 in each enrollment category.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projections.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education Publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1960 through 1968; (3) unpublished data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 and 1967; and (4) *Resident and Extension Enrollment in Institutions of Higher Education,* first term 1959 and 1961.

Population on which projections are based is shown in appendix B, table B-2.

Table 8.—Total degree-credit enrollment in 2-year institutions of higher education, by sex, by attendance status, and by institutional control: United States, fall 1960 to 1980

[Resident and extension opening fall enrollment]

Year (fall)	Total degree-credit enrollment[1]	Sex		Attendance status[2]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	451,333	282,155	169,178	247,000	205,000	392,310	59,023
1961	517,925	320,156	197,769	293,000	225,000	456,381	61,544
1962	589,529	365,624	223,905	317,193	272,336	519,257	70,272
1963	624,789	386,660	238,129	327,218	297,571	551,308	73,481
1964	710,868	439,509	271,359	396,385	314,483	620,859	90,009
1965	841,437	521,846	319,591	495,452	345,985	737,890	103,547
1966[3]	945,000	577,000	367,000	563,000	381,000	840,000	105,000
1967[3]	1,081,000	652,000	429,000	616,000	465,000	968,000	113,000
1968	1,289,499	782,293	507,206	738,707	550,792	1,169,141	120,358
1969	1,528,429	910,631	617,798	849,135	679,294	1,412,610	115,819
1970	1,629,982	953,961	676,021	875,845	754,137	1,519,762	110,220
				PROJECTED[4]			
1971	1,791,000	1,040,000	750,000	958,000	832,000	1,677,000	114,000
1972	1,945,000	1,122,000	822,000	1,038,000	907,000	1,828,000	117,000
1973	2,095,000	1,201,000	894,000	1,115,000	980,000	1,975,000	119,000
1974	2,253,000	1,282,000	970,000	1,196,000	1,057,000	2,131,000	122,000
1975	2,415,000	1,366,000	1,049,000	1,279,000	1,136,000	2,290,000	125,000
1976	2,563,000	1,440,000	1,123,000	1,354,000	1,209,000	2,436,000	127,000
1977	2,702,000	1,508,000	1,194,000	1,424,000	1,277,000	2,574,000	128,000
1978	2,821,000	1,563,000	1,258,000	1,484,000	1,336,000	2,692,000	128,000
1979	2,919,000	1,607,000	1,312,000	1,533,000	1,386,000	2,791,000	128,000
1980	3,001,000	1,642,000	1,359,000	1,574,000	1,427,000	2,874,000	127,000

[1] Beginning in 1966, some students previously reported as non-degree-credit are reported as degree-credit students.

[2] Estimated for years prior to 1962. See appendix A, "Estimation Methods," section 3a.

[3] The breakdown between degree-credit and non-degree-credit enrollment in 1966 and 1967 is estimated. See appendix A, "Estimation Methods," sections 3d and 3f.

The estimates for 1967 differ from the estimates published in the 1968 edition of *Projections of Educational Statistics* because of data available from the 1967 comprehensive report of enrollment.

[4] The projection of total degree-credit enrollment in 2-year institutions by sex and institutional control is based on the assumption that enrollment in these institutions, expressed as a percentage of population age 18-21 years, will follow the 1960-70 trend to 1980 in each enrollment category.

The projection of total degree-credit enrollment by attendance status is based on the assumption that full-time enrollment, expressed as a percentage of total enrollment, will follow the 1960-70 trend to 1980 in each enrollment category.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projections.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1960 through 1968; (3) unpublished data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 and 1967; and (4) *Resident and Extension Enrollment, in Institutions of Higher Education,* first term 1959 and 1961.

Population on which projections are based is shown in appendix B, table B-2.

Table 9.—Non-degree-credit enrollment in all institutions of higher education, by sex, by attendance status, and by institutional control: United States, fall 1960 to 1980

[Resident and extension opening fall enrollment]

Year (fall)	Non-degree-credit enrollment[1]	Sex		Attendance status[2]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	206,000	147,000	59,000	83,000	123,000	161,000	46,000
1961	186,483	128,363	58,120	76,000	111,000	140,579	45,904
1962	229,000	155,000	74,000	95,000	134,000	179,000	50,000
1963	271,241	182,655	88,586	115,000	156,000	217,394	53,847
1964	329,847	215,721	114,126	140,000	190,000	288,181	41,666
1965	394,539	255,417	139,122	172,000	222,000	345,154	49,385
1966[3]	462,000	279,000	183,000	213,000	249,000	409,000	53,000
1967[3]	505,000	311,000	194,000	236,000	269,000	455,000	49,000
1968	584,976	358,647	226,329	272,962	312,014	538,909	46,067
1969	609,636	377,078	232,558	245,128	364,508	570,983	38,653
1970	660,738	407,001	253,737	326,257	334,481	628,045	32,693
				PROJECTED[4]			
1971	731,000	445,000	286,000	360,000	371,000	697,000	33,000
1972	793,000	479,000	313,000	390,000	403,000	759,000	34,000
1973	851,000	512,000	339,000	418,000	433,000	817,000	35,000
1974	913,000	547,000	366,000	448,000	465,000	878,000	35,000
1975	977,000	582,000	395,000	479,000	498,000	941,000	36,000
1976	1,036,000	615,000	421,000	507,000	529,000	1,000,000	36,000
1977	1,091,000	646,000	446,000	534,000	557,000	1,055,000	36,000
1978	1,143,000	674,000	469,000	559,000	584,000	1,107,000	36,000
1979	1,187,000	698,000	488,000	580,000	607,000	1,150,000	36,000
1980	1,227,000	721,000	506,000	599,000	627,000	1,190,000	36,000

[1] Beginning in 1966, some students previously reported as non-degree-credit are reported as degree-credit students.

[2] Estimated for all years prior to 1968. See appendix A, "Estimation Methods," section 3m.

[3] The breakdown between degree-credit and non-degree-credit enrollment in 1966 and 1967 is estimated. See appendix A, "Estimation Methods," sections 3e and 3g.

These estimates differ from estimates published in the 1968 edition of *Projections of Educational Statistics* because of data available from the 1967 comprehensive report of enrollment and revisions in the 1966 comprehensive data for 4-year institutions.

[4] The projection of total non-degree-credit enrollment in all institutions by sex and institutional control is based on the assumption that enrollment, expressed as a percentage of population aged 18-21 years, will follow the 1960-70 trend to 1980 in each enrollment category.

The projection of total non-degree-credit enrollment by attendance status is based on the assumption that in each enrollment category the ratio of full-time enrollment to total enrollment reported in the fall 1970 supplementary enrollment survey, with minor adjustments, will remain constant to 1980.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projections.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1963 through 1968; (3) unpublished data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 and 1967; and (4) *Resident and Extension Enrollment in Institutions of Higher Education,* first term 1959 and 1961.

Population on which projections are based is shown in appendix B, table B-1.

Table 10.—Non-degree-credit enrollment in 4-year institutions of higher education, by sex, by attendance status, and by institutional control: United States, fall 1960 to 1980

[Resident and extension opening fall enrollment]

Year (fall)	Non-degree-credit enrollment[1]	Sex		Attendance status[2]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	40,000	29,000	11,000	14,000	26,000	27,000	13,000
1961	38,002	28,136	9,866	13,000	25,000	25,400	12,602
1962	45,000	32,000	13,000	16,000	29,000	30,000	15,000
1963	51,518	36,492	15,026	19,000	32,000	33,673	17,845
1964	51,789	36,582	15,207	20,000	32,000	34,261	17,528
1965	63,024	43,624	19,400	25,000	38,000	41,780	21,244
1966[3]	80,000	47,000	33,000	39,000	41,000	59,000	21,000
1967[3]	73,000	48,000	26,000	32,000	41,000	51,000	22,000
1968	82,179	50,589	31,590	36,166	46,013	61,576	20,603
1969	72,358	46,974	25,384	37,171	35,187	47,820	24,538
1970	67,512	43,708	23,804	36,753	30,759	45,835	21,677
	PROJECTED[4]						
1971	74,000	45,000	30,000	38,000	37,000	52,000	22,000
1972	74,000	44,000	30,000	37,000	37,000	51,000	23,000
1973	73,000	42,000	31,000	37,000	36,000	50,000	24,000
1974	72,000	41,000	32,000	36,000	36,000	48,000	24,000
1975	71,000	39,000	32,000	36,000	36,000	47,000	25,000
1976	70,000	37,000	33,000	35,000	35,000	45,000	25,000
1977	68,000	35,000	33,000	34,000	35,000	43,000	25,000
1978	68,000	35,000	33,000	34,000	35,000	43,000	25,000
1979	68,000	35,000	33,000	34,000	35,000	43,000	25,000
1980	68,000	35,000	33,000	33,000	34,000	43,000	25,000

[1] Beginning in 1966, some students previously reported as non-degree-credit are reported as degree-credit students.

[2] Estimated for all years prior to 1968. See appendix A, "Estimation Methods," section 3m.

[3] The breakdown between degree-credit and non-degree-credit enrollment in 1966 and 1967 is estimated. See appendix A, "Estimation Methods," sections 3e and 3g.

These estimates differ from estimates published in the 1968 edition of ***Projections of Educational Statistics*** because of data available from the 1967 comprehensive report of enrollment and revisions in the 1966 comprehensive data for 4-year institutions.

[4] The projection of total non-degree-credit enrollment in 4-year institutions by sex and institutional control is based on the assumption that enrollment, expressed as a percentage of population aged 18-21 years, will follow the 1960-70 trend to 1980 in each enrollment category.

The projection of total non-degree-credit enrollment by attendance status is based on the assumption that in each enrollment category the ratio of full-time enrollment to total enrollment reported in the fall 1970 supplementary enrollment survey, with minor adjustments, will remain constant to 1980.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projections.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) ***Fall Enrollment in Higher Education, Supplementary Information,*** 1969 and 1970; (2) ***Opening (Fall) Enrollment in Higher Education,*** annually, 1963 through 1968; (3) unpublished data from ***Resident and Extension Enrollment in Institutions of Higher Education,*** fall 1966 and 1967; and (4) ***Resident and Extension Enrollment in Institutions of Higher Education,*** first term 1959 and 1961.

Population on which projections are based is shown in appendix B, table B-2.

Table 11.—Non-degree-credit enrollment in 2-year institutions of higher education, by sex, by attendance status, and by institutional control: United States, fall 1960 to 1980

[Resident and extension opening fall enrollment]

Year (fall)	Non-degree-credit enrollment[1]	Sex		Attendance status[2]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	166,000	119,000	47,000	69,000	97,000	134,000	32,000
1961	148,481	100,227	48,254	62,000	86,000	115,179	33,302
1962	184,000	123,000	61,000	79,000	105,000	149,000	35,000
1963	219,723	146,163	73,560	96,000	124,000	183,721	36,002
1964	278,058	179,139	98,919	120,000	158,000	253,920	24,138
1965	331,515	211,793	119,722	147,000	184,000	303,374	28,141
1966[3]	381,000	232,000	150,000	174,000	208,000	350,000	32,000
1967[3]	432,000	263,000	168,000	204,000	228,000	404,000	27,000
1968	502,797	308,058	194,739	236,795	266,001	477,333	25,464
1969	537,278	330,104	207,174	207,957	329,321	523,163	14,115
1970	593,226	363,293	229,933	289,504	303,722	582,210	11,016
			PROJECTED[4]				
1971	656,000	400,000	257,000	322,000	334,000	645,000	11,000
1972	719,000	436,000	283,000	352,000	366,000	708,000	11,000
1973	778,000	470,000	308,000	381,000	397,000	767,000	11,000
1974	840,000	506,000	334,000	412,000	429,000	829,000	11,000
1975	905,000	543,000	362,000	443,000	462,000	894,000	11,000
1976	966,000	578,000	388,000	473,000	493,000	955,000	11,000
1977	1,023,000	610,000	412,000	500,000	523,000	1,012,000	11,000
1978	1,075,000	639,000	436,000	525,000	549,000	1,064,000	11,000
1979	1,119,000	663,000	455,000	547,000	572,000	1,108,000	11,000
1980	1,159,000	686,000	473,000	566,000	593,000	1,148,000	11,000

[1] Beginning in 1966, some students previously reported as non-degree-credit are reported as degree-credit students.

[2] Estimated for all years prior to 1968. See appendix A, "Estimation Methods," section 3m.

[3] The breakdown between degree-credit and non-degree-credit enrollment in 1966 and 1967 is estimated. See appendix A, "Estimation Methods," sections 3e and 3g.

The estimates for 1967 differ from the estimates published in the 1968 edition of *Projections of Educational Statistics* because of data available from the 1967 comprehensive report of enrollment.

[4] The projection of total non-degree-credit enrollment in 2-year institutions by sex and institutional control is based on the assumption that enrollment, expressed as a percentage of population aged 18-21 years, will follow the 1960-70 trend to 1980 in each enrollment category.

The projection of total non-degree-credit enrollment by attendance status is based on the assumption that in each enrollment category the ratio of full-time enrollment to total enrollment reported in the fall 1970 supplementary enrollment survey, with minor adjustments, will remain constant to 1980.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projections.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1963 through 1968; (3) unpublished data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 and 1967; and (4) *Resident and Extension Enrollment in Institutions of Higher Education,* first term 1959 and 1961.

Population on which projections are based is shown in appendix B, table B-1.

Table 12.—Estimated full-time-equivalent enrollment in all institutions of higher education, by degree-credit status and institutional control: United States, fall 1960 to 1980[1]

[Resident and extension opening fall enrollment—in thousands]

Year (fall)	All students			Students taking work creditable toward a bachelor's or higher degree			Students in occupational or general studies programs not chiefly creditable toward a bachelor's degree		
	Total	Public	Private	Total	Public	Private	Total	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960	2,954	1,760	1,194	2,835	1,667	1,168	119	93	26
1961	3,200	1,949	1,251	3,092	1,868	1,224	108	81	27
1962	3,455	2,145	1,310	3,322	2,041	1,281	133	104	29
1963	3,696	2,351	1,345	3,539	2,225	1,314	157	126	31
1964	4,115	2,671	1,444	3,924	2,504	1,420	191	167	24
1965	4,671	3,094	1,577	4,443	2,895	1,548	228	199	29
1966	5,070	3,398	1,672	4,792	3,154	1,637	278	243	35
1967	5,480	3,761	1,719	5,168	3,482	1,686	312	279	33
1968	5,954	4,228	1,726	5,594	3,899	1,695	360	329	31
1969	6,344	4,589	1,755	5,997	4,268	1,729	347	321	26
1970	6,721	4,937	1,783	6,299	4,539	1,761	421	399	22
				PROJECTED[1]					
1971	7,178	5,340	1,838	6,715	4,900	1,815	464	441	23
1972	7,593	5,716	1,877	7,090	5,237	1,853	503	479	23
1973	7,979	6,074	1,905	7,440	5,558	1,882	539	516	24
1974	8,384	6,449	1,935	7,806	5,895	1,912	578	554	24
1975	8,796	6,831	1,965	8,178	6,238	1,941	618	594	24
1976	9,153	7,173	1,980	8,498	6,542	1,956	655	631	24
1977	9,471	7,484	1,987	8,781	6,819	1,962	690	665	25
1978	9,729	7,748	1,981	9,007	7,050	1,956	722	698	25
1979	9,916	7,955	1,961	9,166	7,230	1,937	750	725	25
1980	10,059	8,125	1,934	9,284	7,374	1,910	775	751	24

[1] The estimation, 1960 to 1970, and the projection of the full-time equivalent of part-time enrollment are based on the assumption that the 1964 percentages of part-time enrollment equivalent to full-time enrollment (33 percent for degree-credit students and 28 percent for nondegree-credit students) have remained constant, 1960 to 1980.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projections.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1960 through 1968; (3) unpublished data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 and 1967; (4) *Resident and Extension Enrollment in Institutions of Higher Education,* first term 1959 and 1961; and (5) sample survey of full-time-equivalent enrollments and credit hours, fall 1964 (unpublished).

Table 13.—Summary of degree-credit enrollment in all institutions of higher education, by level and institutional type: United States, fall 1960 to 1980

[Resident and extension opening fall enrollment—in thousands]

Year (fall)	Total degree-credit enrollment	Level and type						
		Resident graduate (4-year)[1]	Undergraduate and first-professional (4-year)			Undergraduate (2-year)		
			Total[1]	First-time	Other[1]	Total	First-time	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1960	3,583	356	2,776	709	2,067	451	214	237
1961	3,861	386	2,956	775	2,181	518	244	274
1962	4,175	422	3,163	770	2,393	590	260	329
1963	4,495	464	3,406	775	2,631	625	272	353
1964	4,950	540	3,699	903	2,797	711	322	389
1965	5,526	619	4,066	1,041	3,025	841	401	441
1966[2]	5,928	682	4,302	989	3,313	945	389	556
1967[2]	6,406	753	4,572	992	3,580	1,081	447	634
1968	6,897	796	4,812	1,076	3,736	1,289	554	735
1969	7,484	828	5,128	1,107	4,021	1,528	642	886
1970	7,920	900	5,390	1,126	4,264	1,630	654	976
			PROJECTED[3]					
1971	8,475	971	5,713	1,180	4,533	1,791	711	1,080
1972	8,980	1,039	5,997	1,223	4,774	1,945	760	1,185
1973	9,456	1,104	6,258	1,265	4,993	2,095	809	1,286
1974	9,955	1,173	6,530	1,317	5,213	2,253	863	1,390
1975	10,463	1,244	6,804	1,354	5,450	2,415	908	1,507
1976	10,906	1,309	7,034	1,371	5,663	2,563	938	1,625
1977	11,305	1,369	7,234	1,387	5,847	2,702	964	1,738
1978	11,628	1,421	7,386	1,405	5,981	2,821	991	1,830
1979	11,867	1,463	7,485	1,413	6,072	2,919	1,009	1,910
1980	12,050	1,499	7,550	1,410	6,140	3,001	1,017	1,984

[1] Estimated. See appendix A, "Estimation Methods," sections 3a, 3b, 3h, and 3j.

[2] The breakdown between degree-credit and nondegree-credit enrollment in 1966 and 1967 is estimated. See appendix A, "Estimation Methods," sections 3d and 3f.

[3] The projection of resident graduate enrollment in 4-year institutions was made separately by sex and by institutional control and is based on the assumption that in each enrollment category the estimated proportion of total enrollment at the graduate level will continue the 1960-70 trend to 1980.

The projection of undergraduate and first-professional degree-credit enrollment is the difference between projected total degree-credit enrollment (resident and extension) in 4-year institutions shown in table 7 and resident graduate enrollment in 4-year institutions shown in table 17. Therefore, prior to 1969, the 1st year that extension graduate enrollment was reported, estimated undergraduate and first-professional enrollment in 4-year institutions includes an unknown amount of extension graduate enrollment.

In 1969 and 1970 there were approximately 127,000 and 139,000 extension graduate students respectively, which is about 15 percent of the size of resident graduate enrollment for each year.

The projection of undergraduate degree-credit enrollment in 2-year institutions of higher education is the same as that shown in table 8.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projection.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1960 through 1968; (3) *Residence and Migration of College Students, Fall 1968: Basic State-to-State Matrix Tables;* (4) unpublished data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 and fall 1967; and (5) *Resident and Extension Enrollment in Institutions of Higher Education,* biennially, first term 1959 through 1963.

Table 14.—First-time degree-credit enrollment in all institutions of higher education, by sex, by attendance status, and by institutional control: United States, fall 1960 to 1980

[Resident and extension opening fall enrollment]

Year (fall)	First-time degree-credit enrollment[1]	Sex		Attendance status[2]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	923,069	539,512	383,557	758,000	165,000	577,744	345,325
1961.	1,018,361	591,913	426,448	840,000	178,000	648,236	370,125
1962.	1,030,554	598,099	432,455	849,000	181,000	669,728	360,826
1963.	1,046,417	604,282	442,135	864,000	182,000	686,861	359,556
1964.	1,224,840	701,524	523,316	1,014,000	210,000	814,664	410,176
1965.	1,441,822	829,215	612,607	1,192,000	250,000	990,021	451,801
1966[3].	1,378,000	787,000	591,000	1,140,000	238,000	947,000	430,000
1967[3].	1,439,000	814,000	626,000	1,182,000	257,000	1,024,000	415,000
1968	1,629,751	924,580	705,171	1,328,329	301,422	1,200,784	428,967
1969	1,748,655	985,719	762,936	1,404,508	344,147	1,309,359	439,296
1970	1,780,119	983,794	796,325	1,426,488	353,631	1,337,896	442,223
				PROJECTED[4]			
1971	1,890,000	1,042,000	849,000	1,510,000	380,000	1,439,000	451,000
1972	1,984,000	1,090,000	894,000	1,580,000	404,000	1,527,000	457,000
1973	2,074,000	1,137,000	938,000	1,647,000	427,000	1,613,000	461,000
1974	2,180,000	1,190,000	990,000	1,726,000	453,000	1,711,000	469,000
1975	2,262,000	1,231,000	1,032,000	1,788,000	475,000	1,792,000	471,000
1976	2,309,000	1,250,000	1,059,000	1,820,000	489,000	1,843,000	466,000
1977	2,351,000	1,267,000	1,084,000	1,850,000	501,000	1,890,000	461,000
1978	2,396,000	1,287,000	1,109,000	1,882,000	514,000	1,939,000	457,000
1979	2,422,000	1,297,000	1,125,000	1,900,000	522,000	1,973,000	450,000
1980	2,427,000	1,296,000	1,131,000	1,901,000	526,000	1,988,000	439,000

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[1] Beginning in 1966, some students previously reported as non-degree-credit are reported as degree-credit students.

[2] Estimated for all years prior to 1968. See appendix A, "Estimation Methods," section 2b.

[3] The breakdown between degree-credit and non-degree-credit enrollment in 1966 and 1967 is estimated. See appendix A, "Estimation Methods," section 2a.

[4] The projection of first-time opening fall degree-credit enrollment in all institutions of higher education by sex and by institutional control is based on the assumption that first-time enrollment, expressed as a percentage of the population averaging 18 years of age, will follow the 1960-70 trend to 1980 in each category of enrollment.

The projection of first-time opening fall degree-credit enrollment by attendance status is based on the assumption that in each enrollment category the ratio of full-time enrollment to total enrollment reported in the fall 1970 supplementary enrollment survey, with minor adjustments, will remain constant to 1980.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projections.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data from U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplemental Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1960 through 1968; (3) data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 (unpublished); and (4) *Resident and Extension Enrollment in Institutions of Higher Education,* biennially, first term 1959 and 1961.

Population on which projections are based is shown in appendix B, table B-2.

Table 15.—First-time degree-credit enrollment in 4-year institutions of higher education, by sex, by attendance status, and by institutional control: United States, fall 1960 to 1980

[Resident and extension opening fall enrollment]

Year (fall)	First-time degree-credit enrollment[1]	Sex		Attendance status[2]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960 . . .	709,093	410,942	298,151	620,000	90,000	395,884	313,209
1961 . . .	774,584	446,248	328,336	681,000	93,000	438,135	336,449
1962 . . .	770,114	441,936	328,178	680,000	90,000	445,191	324,923
1963 . . .	774,744	441,220	333,524	687,000	88,000	452,104	322,640
1964 . . .	902,599	508,117	394,482	802,000	100,000	539,251	363,348
1965 . . .	1,041,025	587,789	453,236	929,000	112,000	642,233	398,792
1966[3] . . .	989,000	555,000	434,000	884,000	105,000	610,000	379,000
1967[3] . . .	992,000	548,000	444,000	889,000	103,000	628,000	364,000
1968 . . .	1,076,077	591,443	484,634	966,094	109,983	705,891	370,186
1969 . . .	1,107,116	608,089	499,027	994,586	112,530	721,963	385,153
1970 . . .	1,126,368	608,823	517,545	1,013,031	113,337	736,879	389,489
				PROJECTED[4]			
1971 . . .	1,180,000	635,000	544,000	1,060,000	120,000	782,000	398,000
1972 . . .	1,223,000	657,000	567,000	1,099,000	125,000	821,000	402,000
1973 . . .	1,265,000	678,000	588,000	1,136,000	129,000	859,000	406,000
1974 . . .	1,317,000	703,000	614,000	1,182,000	134,000	904,000	412,000
1975 . . .	1,354,000	720,000	634,000	1,216,000	138,000	940,000	414,000
1976 . . .	1,371,000	726,000	645,000	1,231,000	140,000	962,000	409,000
1977 . . .	1,387,000	732,000	654,000	1,245,000	142,000	982,000	404,000
1978 . . .	1,405,000	740,000	665,000	1,261,000	144,000	1,004,000	400,000
1979 . . .	1,413,000	743,000	670,000	1,268,000	145,000	1,019,000	394,000
1980 . . .	1,410,000	740,000	671,000	1,265,000	145,000	1,026,000	384,000

[1] Beginning in 1966, some students previously reported as non-degree-credit are reported as degree-credit students.

[2] Estimated for all years prior to 1968. See appendix A, "Estimation Methods," section 2b.

[3] The breakdown between degree-credit and non-degree-credit enrollment in 1966 and 1967 is estimated. See appendix A, "Estimation Methods," section 2a.

[4] The projection of first-time opening fall degree-credit enrollment in 4-year institutions of higher education by sex and by institutional control is based on the assumption that first-time enrollment, expressed as a percentage of the population averaging 18 years of age, will follow the 1960-70 trend to 1980 in each category of enrollment.

The projection of first-time opening fall degree-credit enrollment by attendance status is based on the assumption that in each enrollment category the ratio of full-time enrollment to total enrollment reported in the fall 1970 supplementary enrollment survey, with minor adjustments, will remain constant to 1980.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projections.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data from U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1960 through 1968; (3) data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 (unpublished); and (4) *Resident and Extension Enrollment in Institutions of Higher Education,* first term 1959 and 1961.

Population on which projections are based is shown in appendix B, table B-2.

Table 16.—First-time degree-credit enrollment in 2-year institutions of higher education, by sex, by attendance status, and by institutional control: United States, fall 1960 to 1980

[Resident and extension opening fall enrollment]

Year (fall)	First-time degree-credit enrollment[1]	Sex		Attendance status[2]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	213,976	128,570	85,406	139,000	75,000	181,860	32,116
1961	243,777	145,665	98,112	159,000	85,000	210,101	33,676
1962	260,440	156,163	104,277	169,000	91,000	224,537	35,903
1963	271,673	163,062	108,611	178,000	94,000	234,757	36,916
1964	322,241	193,407	128,834	212,000	110,000	275,413	46,828
1965	400,797	241,426	159,371	263,000	138,000	347,788	53,009
1966[3]	389,000	232,000	157,000	255,000	134,000	337,000	51,000
1967[3]	447,000	266,000	181,000	292,000	155,000	396,000	51,000
1968	553,674	333,137	220,537	362,235	191,439	494,893	58,781
1969	641,539	377,630	263,909	409,922	231,617	587,396	54,143
1970	653,751	374,971	278,780	413,457	240,294	601,017	52,734
				PROJECTED[4]			
1971	711,000	406,000	304,000	451,000	260,000	657,000	53,000
1972	760,000	433,000	327,000	481,000	279,000	706,000	54,000
1973	809,000	459,000	350,000	511,000	298,000	754,000	55,000
1974	863,000	487,000	376,000	544,000	319,000	807,000	56,000
1975	908,000	510,000	398,000	572,000	336,000	851,000	57,000
1976	938,000	524,000	414,000	589,000	348,000	881,000	57,000
1977	964,000	535,000	429,000	605,000	359,000	908,000	57,000
1978	991,000	547,000	444,000	621,000	370,000	935,000	56,000
1979	1,009,000	555,000	455,000	632,000	377,000	953,000	56,000
1980	1,017,000	556,000	461,000	636,000	381,000	962,000	55,000

[1] Beginning in 1966, some students previously reported as non-degree-credit are reported as degree-credit students.

[2] Estimated for all years prior to 1968. See appendix A, "Estimation Methods," sections 2b.

[3] The breakdown between degree-credit and non-degree-credit enrollment in 1966 and 1967 is estimated. See appendix A, "Estimation Methods," section 2a.

[4] The projection of first-time opening fall degree-credit enrollment in 2-year institutions of higher education by sex and by institutional control is based on the assumption that first-time enrollment, expressed as a percentage of the population averaging 18 years of age, will follow the 1960-70 trend to 1980 in each category of enrollment.

The projection of first-time opening fall degree-credit enrollment by attendance status is based on the assumption that in each enrollment category the ratio of full-time enrollment to total enrollment reported in the fall 1970 supplementary enrollment survey, with minor adjustments, will remain constant to 1980.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projections.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data from U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information*, 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education*, annually, 1960 through 1968; (3) data from ***Resident and Extension Enrollment in Institutions of Higher Education***, fall 1966 (unpublished); and (4) ***Resident and Extension Enrollment in Institutions of Higher Education***, first term 1959 and 1961.

Population on which projections are based is shown in appendix B, table B-2.

Table 17.—Estimated resident graduate enrollment in 4-year institutions of higher education, by sex, by attendance status, and by institutional control: United States, fall 1960 to 1980[1]

[Resident opening fall enrollment—in thousands]

Year (fall)	Resident graduate degree-credit enrollment[2]	Sex		Attendance status[2]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	356	253	103	143	213	187	169
1961	386	273	113	162	224	208	179
1962	422	298	124	177	245	234	189
1963	464	327	137	188	276	267	196
1964[3]	540	373	167	221	319	317	223
1965[3]	619	423	196	256	363	370	249
1966[3]	682	458	224	285	397	411	271
1967[3]	753	498	255	317	436	464	290
1968[3]	797	514	283	342	455	505	292
1969	828	529	299	364	464	548	280
1970	900	569	331	379	521	606	294
	PROJECTED[4]						
1971	971	607	364	410	561	669	302
1972	1,039	643	396	440	599	731	308
1973	1,104	676	428	468	636	792	312
1974	1,173	711	462	498	675	856	317
1975	1,244	747	497	529	715	923	321
1976	1,309	779	530	556	753	986	323
1977	1,369	808	562	582	787	1,046	323
1978	1,421	831	590	604	817	1,099	322
1979	1,463	849	614	621	842	1,145	318
1980	1,499	863	636	636	863	1,186	313

[1] Extension graduate students are included with resident and extension undergraduate and first-professional students in tables 18 and 19 because separate data on extension graduate students were not collected until 1969. In 1969 and 1970 there were approximately 127,000 and 139,000 extension graduate students, respectively, which is about 15 percent of the size of resident graduate enrollment in each year.

[2] For method of estimating total resident graduate enrollment and resident graduate enrollment by attendance status, 1960 to 1968, see appendix A, "Estimation Methods," sections 3a, 3b, 3h, and 3j.

[3] The estimates for 1964 to 1968 differ from estimates published in the 1969 and prior editions of *Projections of Educational Statistics* because they take into account (1) data on graduate enrollment available from the unpublished 1967 comprehensive survey of enrollment, (2) revisions in the 1966 comprehensive survey of enrollment data for 4-year institutions, and (3) data on graduate enrollment available from the 1969 supplementary survey.

[4] The projection of resident graduate enrollment by sex and by control of institution is based on the assumption that in each enrollment category the estimated proportion of total enrollment at the graduate level will continue the 1960-70 trend to 1980.

The projection of resident graduate enrollment by attendance status is based on the assumption that in each enrollment category the ratio of full-time graduate enrollment to total graduate enrollment will continue the 1960-70 trend to 1980.

Veterans attending college through aid provided by the Veterans' Readjustment Benefits Act of 1966 are included in the trend projection.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1960 through 1968; (3) unpublished data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 and 1967; (4) *Resident and Extension Enrollment in Institutions of Higher Education,* first term 1959 through 1963; and (5) *Residence and Migration of College Students,* fall 1968.

Table 18.—Estimated undergraduate and first-professional degree-credit enrollment in all institutions of higher education, by sex, by attendance status, and by institutional control: United States, fall 1960 to 1980[1]

[Resident and extension opening fall enrollment—in thousands]

Year (fall)	Undergraduate degree-credit enrollment	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	3,227	2,004	1,223	2,323	904	1,929	1,298
1961	3,474	2,135	1,339	2,552	922	2,121	1,353
1962	3,753	2,290	1,463	2,725	1,028	2,340	1,413
1963	4,031	2,446	1,585	2,881	1,151	2,581	1,450
1964[2]	4,410	2,660	1,750	3,196	1,213	2,863	1,548
1965[2]	4,907	2,952	1,956	3,654	1,253	3,255	1,653
1966[2]	5,247	3,119	2,127	3,940	1,306	3,529	1,717
1967[2]	5,653	3,324	2,329	4,239	1,414	3,897	1,756
1968[2]	6,101	3,588	2,514	4,606	1,496	4,363	1,738
1969	6,656	3,890	2,766	4,890	1,766	4,867	1,789
1970	7,020	4,068	2,953	5,110	1,910	5,194	1,826
	PROJECTED[1]						
1971	7,503	4,314	3,189	5,425	2,079	5,622	1,881
1972	7,942	4,536	3,406	5,705	2,237	6,022	1,920
1973	8,352	4,739	3,613	5,963	2,389	6,404	1,948
1974	8,782	4,950	3,832	6,234	2,549	6,804	1,978
1975	9,219	5,164	4,056	6,507	2,713	7,212	2,008
1976	9,597	5,342	4,255	6,737	2,860	7,574	2,023
1977	9,935	5,494	4,442	6,938	2,998	7,906	2,029
1978	10,207	5,606	4,600	7,092	3,115	8,184	2,023
1979	10,404	5,678	4,726	7,195	3,209	8,401	2,002
1980	10,551	5,724	4,828	7,265	3,287	8,576	1,975

[1] The estimation and projection of undergraduate degree-credit enrollment in all institutions, by sex, attendance status, and institutional control, is calculated by summing the above estimated and projected categories of degree-credit enrollment in 2-year institutions (table 8) and corresponding categories of undergraduate degree-credit enrollment in 4-year institutions (table 19).

[2] The estimates for 1964 through 1968 differ from the estimates published in the 1969 and prior editions of *Projections of Educational Statistics* because they take into account (1) data on resident graduate enrollment available from the unpublished 1967 comprehensive survey of enrollment, (2) revisions in the 1966 comprehensive survey of enrollment data for 4-year institutions, and (3) data on graduate enrollment available from the 1969 supplementary survey

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1960 through 1968; (3) unpublished data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 and 1967; (4) *Resident and Extension Enrollment in Institutions of Higher Education,* first term 1959 through 1963; and (5) *Residence and Migration of College Students,* fall 1968.

Table 19.—Estimated undergraduate and first-professional degree-credit enrollment in 4-year institutions of higher education, by sex, by attendance status, and by institutional control: Unites States, fall 1960 to 1980[1]

[Resident and extension opening fall enrollment—in thousands]

Year (fall)	Undergraduate degree-credit enrollment	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	2,776	1,722	1,054	2,077	699	1,537	1,239
1961	2,956	1,815	1,141	2,258	699	1,665	1,291
1962	3,163	1,924	1,239	2,408	755	1,821	1,342
1963	3,406	2,059	1,347	2,553	853	2,030	1,377
1964[2]	3,699	2,220	1,479	2,800	899	2,242	1,458
1965[2]	4,066	2,430	1,636	3,159	907	2,517	1,549
1966[2]	4,302	2,542	1,760	3,377	925	2,689	1,612
1967[2]	4,572	2,672	1,900	3,623	949	2,929	1,643
1968[2]	4,842	2,823	2,019	3,856	985	3,218	1,624
1969	5,128	2,980	2,148	4,041	1,087	3,454	1,673
1970	5,390	3,114	2,276	4,234	1,156	3,674	1,716
	PROJECTED						
1971	5,713	3,274	2,439	4,466	1,246	3,946	1,767
1972	5,997	3,413	2,584	4,667	1,330	4,194	1,803
1973	6,258	3,538	2,719	4,849	1,409	4,429	1,829
1974	6,530	3,668	2,862	5,038	1,492	4,673	1,856
1975	6,804	3,798	3,007	5,228	1,577	4,921	1,883
1976	7,034	3,902	3,132	5,383	1,651	5,138	1,897
1977	7,234	3,986	3,248	5,513	1,720	5,332	1,902
1978	7,386	4,043	3,343	5,608	1,778	5,492	1,895
1979	7,485	4,071	3,414	5,662	1,823	5,610	1,874
1980	7,550	4,082	3,468	5,691	1,859	5,703	1,848

[1] The estimation and projection of undergraduate degree-credit enrollment in 4-year institutions, by sex, attendance status, and institutional control is calculated by subtracting estimated and projected resident graduate enrollment in the above categories (table 17) from corresponding categories of estimated and projected total degree-credit enrollment in 4-year institutions (table 7).

[2] The estimates for 1964 through 1968 differ from the estimates published in the 1969 and prior editions of *Projections of Educational Statistics* because they take into account (1) data on resident graduate enrollment available from the unpublished 1967 comprehensive survey of enrollment, (2) revisions in the 1966 comprehensive survey of enrollment data for 4-year institutions, and (3) data on graduate enrollment available from the 1969 supplementary survey.

For further methodological details, see appendix A, table A-1.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970; (2) *Opening (Fall) Enrollment in Higher Education,* annually, 1960 through 1968; (3) unpublished data from *Resident and Extension Enrollment in Institutions of Higher Education,* fall 1966 and 1967; (4) *Resident and Extension Enrollment in Institutions of Higher Education,* biennially, first term 1959 through 1963; and (5) *Residence and Migration of College Students,* fall 1968.

CHAPTER III

High School Graduates and Earned Degrees

Frances E. Ryan and John F. Beamer, Jr.

High school graduates (table 20)

The number of high school graduates increased from 2.0 million in the school year 1960-61 to an estimated 3.0 million in 1970-71 and is expected to increase to 3.3 million in 1980-81. These figures include graduates from all regular public and nonpublic high schools in the United States and, unlike the data on enrollments in chapter II, graduates from the following schools not in the regular school system: Federal schools for Indians, federally operated schools on Federal installations, residential schools for exceptional children, and subcollegiate departments of colleges and universities. These schools represent about 1 percent of the public and nonpublic school graduates.

Two main sources form the basis for these figures quoted above. Graduates of regular public schools are reported each fall by the State departments of education. Graduates of regular nonpublic schools are reported in surveys of the schools by the Office of Education. Other graduates included above are estimated from various auxiliary sources.

Projected high school graduates by sex and by control of school are shown in table 20. The projection of public high school graduates to 1980-81 is based on the assumption that, for boys and girls separately, high school graduates expressed as a percentage of the 18-year-old population will follow the 1959-60 to 1969-70 trend. The projection of nonpublic high school graduates assumes little or no increase in the number of graduates in line with similar assumptions regarding nonpublic enrollments.

Girls make up slightly more than half of the graduates at present, but the number of boys graduating has been increasing faster than the number of girls. By the middle seventies, the number of boys graduating is expected to exceed the number of girls. The percentage of the 18-year-old population graduating will still be slightly higher for girls.

Earned degrees, by level and sex (table 21)

Earned-degree reports from individual degree-granting institutions of higher education are received each fall by the Office of Education. These provide information on the number of degrees granted by level and sex and by academic field of concentration. They cover degrees granted during the academic year ending in June and include degrees earned in the prior summer, awarded too late to be included with the June graduates of that year.

Three principal levels have been reported and projected: bachelor's, including first-professional degrees; master's degrees; and doctorates. Since 1960-61, first-professional degrees have been reported separately from bachelor's degrees, but the definitions of what constitutes a first-professional degree have not been uniform throughout the period. For that reason, no attempt has been made to project these degrees separately. (See "Changes in Degree-Level Definitions," appendix A, for a comparison of these definitions.) Recently, however, a stable definition of what constitutes a first-professional degree has been established, and reporting will become reasonably uniform in the future.

In the 1969 edition, ambiguities in the definitions of first-professional degrees in library science and social work were eliminated, and most of these degrees were reclassified from first-level degrees to master's degrees. The earlier years were then adjusted to be consistent with the new definition. For methods of estimating master's degrees in library science and social work, see appendix A, "Estimation Methods," section 1.

Projected degrees by level and sex are shown in table 21. Based on reports of degrees through 1969-70, the total number of bachelor's and first-professional degrees granted each year rose from 395,000 in 1960-61 to an estimated 863,000 in 1970-71 and is expected to be 1,334,000 in 1980-81, the number of master's degrees rose from 81,700 in 1960-61 to an estimated 224,000 in 1970-71 and is expected to reach 395,900 in 1980-81, and the annual output of doctorates increased from 10,600 in 1960-61 to an estimated 32,000 in 1970-71 and is expected to be 68,700 in 1980-81. The methodology for estimating and projecting these degrees differs from that used in the 1970 and prior editions of *Projections of Educational Statistics.* The projections of degrees by level and sex in this edition are not only based on the relationship between college-age population and the number of degrees granted at each of these three levels during the 1959-60 to 1969-70 period but also take into account the following: (1) first-time degree-credit enrollment 4 years before the bachelor's or first-professional degree, (2) the average of 1st-year enrollment for master's and doctor's degrees 1 and 2 years before the master's degree, and (3) the average of 1st-year enrollment for master's and doctor's degree 5 and 6 years before the doctor's degree.

For a more detailed description of the methodology used, see appendix A, table A-2.

Earned degrees, by level and field (tables 22-25)

The fields presented are divided into two main groups at each level. These groups are (a) natural sciences and related professions and (b) social sciences, humanities, and related professions. The fields included in both groups and the percentage distribution of degrees by level and field for the years 1960-61, 1970-71, and 1980-81 are shown in table 22. The projected number of earned degrees by field are shown in tables 23, 24, and 25, each for one of the three levels.

Projections of first-level degrees (with the exception of first-professional degrees in the health fields) are based on the assumption that the percentage distribution of degrees by field will continue the 1959-60 to 1969-70 trend.

First-level degrees in the health fields are based on projections by the Bureau of Health Manpower Education, National Institutes of Health. They were based on estimates of expanding facilities for training, together with data on student applications in excess of present capacity. These subject fields were eliminated from the Office of Education data before its projections were made. The projected health fields were included in the final table.

In prior editions of *Projections of Educational Statistics,* projections of master's and doctor's degrees by field were also based solely on the percentage distribution method. However, in this edition, the 2-year average of first-time enrollment for master's and doctor's degrees by field was used with an appropriate timelag to determine projections of master's and doctor's degrees. For a more detailed description of the methodology used, see appendix A, table A-2.

First-level degrees, by field (tables 22, 23)

In 1960-61, about 29 percent of all first-level degrees (bachelor's and first-professional degrees) were awarded in the fields of study constituting the natural sciences and related professions. This proportion dropped to about 22 percent in 1970-71 with a projected proportion of about 19 percent in 1980-81, with of course a proportionate increase for the social sciences, humanities, and related professions.

Projections of first-level degrees by the field in which they were awarded are shown in table 23. As in the past, total natural sciences are not expected to increase at as fast a rate as social sciences and humanities between 1970-71 and 1980-81. The total number of first-level degrees granted in the natural sciences rose from 113,695 in 1960-61 to an estimated 188,860 in 1970-71 and is expected to be 257,200 in 1980-81. The number of first-level degrees granted in the social sciences, humanities, and related professions rose from 281,503 in 1960-61 to an estimated 674,140 in 1970-71 and is expected to total 1,075,800 in 1980-81.

In the natural sciences, the field of health professions is the only one expected to increase in its proportion of total first-level degrees. Moderate to substantial proportionate decreases are projected in mathematics and statistics, engineering, physical sciences, biological sciences, agriculture and forestry, and science, general program. The largest projected proportionate decrease is in engineering.

For most of the social sciences and humanities a proportionate increase is expected. Proportionate decreases are expected in education, business and commerce, and "other," with the greatest decrease expected in education.

In all fields there are projected increases in the actual number of earned degrees.

Second-level degrees, by field (tables 22, 24)

The proportion of second-level degrees (master's) awarded in the natural sciences and related professions which was about 25 percent in 1960-61 is now about 20 percent and is expected to drop to about 18 percent by 1980-81.

Second-level degrees by the fields in which they were awarded are shown in table 24. The total number of these degrees awarded in the natural sciences and related professions rose from 20,277 in 1960-61 to an estimated 44,060 in 1970-71 and is expected to be 70,860 by 1980-81. The number of second-level degrees in the group of fields composed of the social sciences, humanities, and related professions rose from 61,458 in 1960-61 to an estimated 179,940 in 1970-71 and is expected to rise to 325,040 by 1980-81.

In the natural sciences, as indicated in table 22, the pattern of proportionate decreases in master's degrees is much like that in bachelor's and first-professional degrees, but the expected percentage increases of actual numbers of earned degrees by field are much higher. The same holds true in the social sciences and humanities. At present there are more master's degrees than bachelor's degrees awarded each year in library science and social work. This relationship will continue in library science, which is mainly a graduate program; but by 1973-74 social work is expected to have more bachelor's than master's degrees. Although master's degrees in education are decreasing in proportion to total master's degrees, the projection shows a large increase in the number of master's degrees through 1980-81 with the proportion of such degrees being about one-third of the total.

Doctor's degrees, by field (tables 22, 25)

About 46 percent of all doctor's (except first-professional) degrees awarded in 1970-71 were in the subject fields which make up the natural sciences and related professions. This proportion is about 2 percent less than in 1969-70. Also, whereas last year the projected proportion showed an increase of more than 50 percent over the next decade, the projected proportion this year shows a decrease to less than 40 percent by 1980-81.

In the natural sciences over the next decade, the number of earned doctor's degrees is expected to increase about 80 percent, with each field having a large percentage increase. In the social sciences and humanities the number of doctor's degrees is expected to increase about 150 percent. Nearly all of the social sciences and humanities fields are expected to double by 1980-81, and those in education, psychology, and business subjects (excluding accounting) are expected to increase even more.

Doctor's degrees by areas of specialization are shown in table 25. The total number of doctor's degrees granted in the natural sciences and related professions rose from 5,070 in 1960-61 to an estimated 14,650 in 1970-71 and is expected to be 26,060 in 1980-81. The number of doctor's degrees granted in the social sciences, humanities, and related professions rose from 5,505 in 1960-61 to an estimated 17,350 in 1970-71 and is expected to be 42,640 by 1980-81.

Table 20.—High school graduates, by sex and by institutional control: United States, 1959-60 to 1980-81

[In thousands]

Year	Total high school graduates[1]	Sex		Control	
		Boys	Girls	Public	Private (estimated)
(1)	(2)	(3)	(4)	(5)	(6)
1959-60	1,864	898	966	1,633	[2] 231
1960-61	1,971	958	1,013	1,732	239
1961-62	1,925	941	984	1,685	240
1962-63	1,950	959	991	1,717	[2] 233
1963-64	2,290	1,123	1,167	2,015	[2] 275
1964-65	2,665	1,314	1,351	2,366	[2] 298
1965-66	2,672	1,326	1,346	2,374	298
1966-67	2,680	1,332	1,348	2,381	298
1967-68	2,702	1,341	1,360	2,402	300
1968-69	2,839	1,408	1,431	2,529	310
1969-70	2,906	1,438	1,468	2,596	310
1970-71[3]	3,036	1,506	1,530	2,726	310
	PROJECTED[4]				
1971-72	3,128	1,556	1,572	2,818	310
1972-73	3,211	1,602	1,610	2,901	310
1973-74	3,314	1,656	1,658	3,004	310
1974-75	3,381	1,692	1,690	3,071	310
1975-76	3,399	1,701	1,698	3,089	310
1976-77	3,412	1,708	1,704	3,102	310
1977-78	3,427	1,718	1,708	3,117	310
1978-79	3,419	1,717	1,703	3,109	310
1979-80	3,386	1,702	1,684	3,076	310
1980-81	3,340	1,680	1,660	3,030	310

[1] Includes regular public and nonpublic schools, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, and federally operated schools on Federal installations. Excludes equivalency certificates. More than 99 percent of public school graduates and 97 percent of nonpublic school graduates are graduates of regular day schools.

[2] Actual data from Office of Education surveys.

[3] Estimated.

[4] The projection of public high school graduates is based on the following assumptions: (1) the number of boys graduating, expressed as a percentage of the number of boys in the population averaging 18 years of age, will follow the 1959-60 to 1969-70 trend; and (2) the number of girls graduating, expressed as a percentage of the number of girls in the population averaging 18 years of age, will follow the 1959-60 to 1969-70 trend.

The projection of nonpublic high school graduates is based on the assumptions that: (1) The number of nonpublic high school graduates will remain approximately the same throughout the projection period; and (2) the percentage of boys among nonpublic high school graduates (48.1 percent in 1964-65) will remain constant to 1980-81.

For further methodological details, see appendix A, table A-2.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: High school graduate data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Statistics of Public Schools,* annually, fall 1963 through 1970; (2) *Statistics of Nonpublic Elementary and Secondary Schools,* 1965-66; and (3) *Nonpublic School Enrollments in Grades 9-12, Fall 1964, and Graduates, 1963-64.*

Table 21.—Earned degrees, by level and by sex of student: United States, 1959-60 to 1980-81

Year	Bachelor's and first-professional degrees[1]			Master's degrees[1]			Doctor's degrees (except first-professional)[2]		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1959-60	389,183	252,996	136,187	77,692	51,965	25,727	9,829	8,801	1,028
1960-61	395,203	252,976	142,227	81,735	55,368	26,367	10,575	9,463	1,112
1961-62	414,275	259,376	154,899	88,426	59,841	28,585	11,622	10,377	1,245
1962-63	443,502	271,721	171,781	95,486	64,359	31,127	12,822	11,448	1,374
1963-64	494,174	296,501	197,673	105,530	70,514	35,016	14,490	12,955	1,535
1964-65	530,054	316,088	213,966	117,101	77,742	39,359	16,467	14,692	1,775
1965-66	551,040	328,853	222,187	140,555	93,063	47,492	18,237	16,121	2,116
1966-67	590,548	353,351	237,197	157,706	103,090	54,616	20,617	18,163	2,454
1967-68	666,710	390,507	276,203	176,749	113,519	63,230	23,089	20,183	2,906
1968-69	764,185	444,380	319,805	193,756	121,531	72,225	26,188	22,752	3,436
1969-70	827,234	484,174	343,060	208,291	125,624	82,667	29,866	25,890	3,976
1970-71[3]	863,000	501,000	362,000	224,000	133,600	90,400	32,000	27,600	4,400
	PROJECTED[4]								
1971-72	903,000	520,000	384,000	237,900	142,400	95,500	34,700	29,600	5,000
1972-73	958,000	539,000	419,000	255,600	152,500	103,100	37,900	32,000	5,900
1973-74	990,000	551,000	439,000	273,500	162,700	110,800	40,200	33,600	6,600
1974-75	1,047,000	577,000	469,000	293,700	174,100	119,700	43,100	35,900	7,200
1975-76	1,100,000	603,000	497,000	309,900	182,300	127,600	46,900	39,300	7,700
1976-77	1,152,000	628,000	524,000	329,000	191,900	137,100	51,000	42,800	8,100
1977-78	1,207,000	654,000	553,000	346,800	201,300	145,500	55,600	46,900	8,700
1978-79	1,263,000	680,000	582,000	363,300	210,100	153,200	59,500	50,200	9,300
1979-80	1,300,000	698,000	602,000	380,000	218,800	161,200	64,100	54,200	9,900
1980-81	1,334,000	713,000	620,000	395,900	227,000	168,900	68,700	58,200	10,500

[1] Bachelor's and master's degrees differ from those published in the 1968 and prior editions of *Projections of Educational Statistics* because of adjustments to secure comparability with current reports of these degrees. For estimation details, see appendix A, "Estimation Methods," section 1.

The following specified degrees are reported as first-professional: Dentistry (D.D.S. or D.M.D.), law (LL.B. or J.D.), medicine (M.D.), theology (B.D.), veterinary medicine (D.V.M.), chiropody or podiatry (D.S.C. or D.P.), optometry (O.D.), and osteopathy (D.O.).

[2] Doctor's degrees include the Ph.D. in any field as well as such degrees as doctor of education, doctor of juridical science, and doctor of public health (preceded by a professional degree in medicine or sanitary engineering). They exclude degrees defined as first-professional, such as doctor of veterinary medicine.

[3] Estimated.

[4] The estimation and projection of degrees by level and sex of student are based on the following assumptions:

(1) The estimates of bachelor's degrees by sex for 1970-71 and the projections of these degrees for 1971-72 through 1973-74 are based on the assumption that the percentage of degrees in 1969-70 to first-time degree-credit enrollment 4 years earlier will remain approximately constant. The projections for 1974-75 through 1980-81 are based on the assumption that the percentage of degrees to population will continue the 1959-60 to 1973-74 trend.

(2) The estimates of master's degrees by sex for 1970-71 are based on the assumption that the percentage of degrees in 1969-70 to the average enrollment 1 and 2 years earlier of 1st-year students taking work toward a master's or doctor's degree will remain approximately constant. The projections for 1971-72 through 1980-81 are based on the assumption that the percentage of degrees to population will follow the 1959-60 to 1970-71 trend.

(3) The estimates of doctor's degrees for 1970-71 and the projection of these degrees for 1971-72 through 1974-75 are based on the assumption that the percentage of degrees in 1969-70 to the average enrollment 5 and 6 years earlier of 1st-year students taking work toward a master's or doctor's degree will remain approximately constant. The projections for 1975-76 through 1980-81 are based on the assumption that the percentage of degrees to population will follow the 1959-60 to 1974-75 trend.

(4) A composite population by sex, representative of the age of bachelor's recipients, was used for projecting bachelor's degrees. The same population was used with a 2-year timelag for projecting master's degrees and a 5-year timelag for projecting doctor's degrees. For population used, see appendix B, table B-2; and for estimation details, see appendix A, "Estimation Methods," section 5.

For further methodological details, see appendix A, table A-2.

NOTE.—Data include 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals. To obtain projections of earned degrees for the United States and outlying areas, multiply the projections in this table by 1.007 for bachelor's and first-professional degrees, 1.005 for master's degrees, and 1.000 for doctor's degrees.

SOURCES: Degree and enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Earned Degrees Conferred by Institution of Higher Education,* 1959-60 through 1969-70; (2) *Opening (Fall) Enrollment in Higher Education,* 1960 through 1968; (3) *Enrollment for Advanced Degrees,* fall 1961, 1962, and 1963; (4) *Enrollment for Master's and Higher Degrees, Fall 1964;* (5) *Enrollment for Master's and Higher Degrees, Fall 1965: Summary Report;* (6) *Students Enrolled for Advanced Degrees,* fall 1966 through 1970; and (7) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970.

Table 22.—Percentage distribution of earned degrees, by field of study and level: United States, 1960-61 to 1980-81

A. Natural sciences and related professions

Year	Total number of degrees	Percent of total degrees							
		Total natural sciences	Mathematics and statistics[1]	Engineering	Physical sciences[2]	Biological sciences[3]	Agriculture and forestry	Health professions[4]	Science, general program
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Bachelor's and first-professional								
1960-61	395,198	28.8	3.3	9.0	3.9	4.1	1.7	6.2	0.5
1970-71[5]	863,000	21.9	3.5	5.2	2.5	4.5	1.5	4.4	.4
1980-81[6]	1,333,000	19.3	3.3	3.6	2.0	4.2	1.4	4.5	.3
	Master's								
1960-61	81,735	24.8	2.7	10.0	4.6	2.9	2.0	2.0	.6
1970-71[5]	224,000	19.7	3.5	7.0	2.7	2.8	1.1	2.2	.4
1980-81[6]	396,000	17.9	3.4	6.1	2.2	2.7	0.9	2.2	.4
	Doctor's (except first-professional)								
1960-61	10,575	47.9	3.3	8.9	18.8	11.3	4.4	1.3	.0
1970-71[5]	32,000	45.8	4.6	11.9	13.9	11.1	2.9	1.3	.1
1980-81[6]	68,700	37.9	4.7	8.9	10.4	9.6	2.9	1.3	.1

Table 22.—Percentage distribution of earned degrees, by field of study and level: United States, 1960-61 to 1980-81—Continued

B. Social sciences, humanities, and related professions

Year	Total number of degrees	Percent of total degrees												
		Total social sciences, humanities, etc.	Fine arts[7]	English and journalism	Foreign languages[8]	Psychology	Social sciences[9]	Education	Library science[10]	Social work[10]	Business and commerce			Other[12]
											Accounting	Other business and commerce[11]		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		(14)
						Bachelor's and first-professional								
1960-61	395,198	71.2	5.5	6.1	1.6	2.1	13.2	18.7	0.1	0.1	2.7	11.5		9.5
1970-71[5]	863,000	78.1	6.9	7.5	2.5	4.3	19.2	15.8	.1	.5	2.6	10.9		7.7
1980-81[6]	1,333,000	80.7	7.4	7.6	2.6	5.9	23.0	13.8	.1	1.0	2.4	10.0		7.0
						Master's								
1960-61	81,735	75.2	5.9	4.1	1.7	2.1	7.8	37.7	2.4	2.6	.5	6.1		4.2
1970-71	224,000	80.3	6.3	4.5	2.4	2.2	9.2	34.5	3.2	2.6	.5	11.3		3.8
1980-81	396,000	82.1	6.3	4.5	2.5	2.1	9.6	32.4	3.3	2.3	.4	14.9		3.8
						Doctor's (except first-professional)								
1960-61	10,575	52.1	3.9	3.9	2.5	6.6	12.9	15.1	.1	.3	.1	1.7		4.8
1970-71	32,000	54.2	3.5	4.1	3.2	5.4	12.4	19.4	.1	.3	.2	2.2		3.4
1980-81	68,700	62.1	3.9	3.7	2.7	6.1	12.4	26.8	.1	.3	.1	3.0		3.0

See footnotes at end of tables 23-25.

Table 23.—Earned bachelor's and first-professional degrees, by field of study: United States, 1959-60 to 1980-81

A. Natural sciences and related professions

Year (1)	Total natural sciences (2)	Mathematics and statistics[1] (3)	Engineering (4)	Physical sciences[2] (5)	Biological sciences[3] (6)	Agriculture and forestry (7)	Health professions[4] (8)	Science, general program (9)
1959-60	114,706	11,399	37,679	16,007	15,576	7,484	24,455	2,106
1960-61	113,695	13,097	35,698	15,452	16,060	6,733	24,634	2,021
1961-62	115,580	14,570	34,551	15,851	16,915	6,789	24,672	2,232
1962-63	119,867	16,078	33,285	16,215	19,114	6,940	25,776	2,459
1963-64	128,701	18,624	35,013	17,456	22,723	7,115	25,259	2,511
1964-65	136,841	19,547	36,589	17,861	25,167	7,663	27,356	2,658
1965-66	138,531	20,066	35,615	17,129	26,918	8,063	28,171	2,569
1966-67	144,443	21,429	35,954	17,739	28,849	8,829	29,160	2,483
1967-68	155,900	23,972	37,368	19,380	31,826	9,342	31,175	2,837
1968-69	173,990	28,142	41,248	21,480	35,308	11,208	33,498	3,106
1969-70	184,137	28,986	44,479	21,439	37,389	12,778	36,038	3,028
1970-71[5]	188,860	29,940	44,650	21,810	38,460	13,100	37,790	3,110
				PROJECTED[6]				
1971-72	194,260	31,230	44,790	22,260	40,020	13,560	39,240	3,160
1972-73	202,170	32,810	44,940	22,780	41,920	14,080	42,310	3,330
1973-74	206,320	33,700	44,520	22,800	42,960	14,360	44,710	3,270
1974-75	217,080	35,340	45,130	23,380	44,920	14,920	50,000	3,390
1975-76	225,880	36,970	45,790	24,030	46,920	15,590	53,080	3,500
1976-77	232,980	38,580	46,550	24,660	48,950	16,260	54,380	3,600
1977-78	240,380	40,270	47,380	25,290	51,060	16,940	55,790	3,650
1978-79	248,230	41,950	48,180	25,940	53,100	17,500	57,820	3,740
1979-80	253,560	43,000	48,410	26,250	54,440	17,950	59,730	3,780
1980-81	257,200	44,000	48,530	26,440	55,630	18,410	60,510	3,680

Table 23.—Earned bachelor's and first-professional degrees, by field of study: United States, 1959-60 to 1980-81—Continued

B. Social sciences, humanities, and related professions

Year	Total social sciences, humanities, etc.	Fine arts[7]	English and journalism	Foreign languages[8]	Psychology	Social sciences[9]	Education	Library science[10]	Social work	Business and commerce		Other[12]
										Accounting	Other business and commerce[11]	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1959-60	274,477	22,281	22,400	5,482	8,061	50,193	71,145	429	487	10,711	46,228	37,060
1960-61	281,503	21,895	23,976	6,473	8,460	52,192	74,023	439	567	10,580	45,316	37,582
1961-62	298,695	23,370	26,508	7,975	9,578	57,304	78,153	423	654	11,353	46,011	37,366
1962-63	323,635	25,319	30,251	9,768	10,993	65,373	82,627	462	825	11,880	47,124	39,013
1963-64	365,473	28,184	35,174	12,217	13,258	77,039	90,813	510	983	13,675	50,913	42,707
1964-65	393,213	30,385	38,880	13,926	14,676	84,231	95,667	623	1,291	14,886	53,839	44,809
1965-66	412,509	32,605	42,146	15,313	16,940	93,175	94,294	642	1,664	14,903	54,084	46,743
1966-67	446,105	36,365	45,776	16,855	19,410	104,283	95,859	701	1,881	15,593	59,967	49,415
1967-68	510,810	42,566	52,340	19,264	23,938	120,774	107,778	814	2,518	17,922	68,644	54,252
1968-69	590,195	50,608	59,476	21,709	29,332	140,932	121,669	1,000	3,367	20,032	81,557	60,513
1969-70	643,097	56,434	62,359	21,151	33,606	153,698	132,597	1,054	4,052	21,183	92,913	64,050
1970-71[5]	674,140	59,710	64,970	21,840	36,930	166,010	136,350	1,110	4,690	22,070	94,410	66,050
						PROJECTED[6]						
1971-72	709,740	63,120	68,240	23,000	40,560	178,500	140,440	1,180	5,340	22,940	97,870	68,550
1972-73	755,830	67,620	72,820	24,610	44,760	193,450	147,720	1,280	6,150	23,870	101,850	71,700
1973-74	783,680	70,380	75,300	25,550	48,030	204,160	150,370	1,340	6,890	24,350	104,010	73,300
1974-75	828,920	74,740	79,470	27,050	52,500	219,330	156,520	1,430	7,760	25,420	108,250	76,450
1975-76	874,120	79,030	83,520	28,420	57,050	234,800	162,070	1,510	8,610	26,540	112,930	79,640
1976-77	919,020	83,440	87,490	29,830	61,560	250,310	167,330	1,540	9,570	27,720	117,490	82,740
1977-78	966,620	87,970	91,660	31,280	66,460	266,630	173,180	1,620	10,590	28,850	122,370	86,010
1978-79	1,013,770	92,530	95,740	32,700	71,260	282,960	178,870	1,710	11,650	30,090	127,050	89,210
1979-80	1,046,440	95,680	98,490	33,650	75,170	295,100	181,670	1,770	12,650	30,960	130,110	91,190
1980-81	1,075,800	98,650	100,860	34,530	78,890	306,070	184,120	1,810	13,560	31,660	132,740	92,910

[1] Includes mathematics, statistics, and computer science.

[2] Includes astronomy, chemistry, earth sciences, meteorology, physics, and other physical sciences.

[3] Includes anatomy, bacteriology, biochemistry, biology, botany, entomology, physiology, zoology, and other biological sciences.

[4] Includes dentistry, medicine and osteopathy, nursing, optometry, pharmacy, public health, veterinary medicine, and other health professions.

[5] Estimated.

[6] The projection of bachelor's degrees by subject field is based on the assumption that the percentage distribution of degrees by field for each level and sex will continue the 1959-60 to 1969-70 trends.

For methodological details, see appendix A, table A-2; for complete classification of degrees by field, see appendix A, "Classifications and Classification Changes."

[7] Includes architecture, music, speech and dramatic arts, and other fine and applied arts.

[8] Includes classical languages, French, German, Russian and other Slavic languages, Spanish, and other languages and language programs.

[9] Includes anthropology, economics, geography, history, international relations, political science, public administration, sociology, and other social sciences.

[10] Beginning in 1965-66, bachelor's and first-professional degrees in library science and social work exclude first-professional master's degrees. Data prior to 1965-66 have been adjusted to conform to this classification. For method of estimating, see appendix A, "Estimation Methods," section 1.

[11] Includes hotel and restaurant administration, secretarial studies, other business and commerce programs, distributive education, finance and banking, marketing, transportation, real estate and insurance, and business education.

[12] Includes home economics; law; military, naval, or air force science; theology; philosophy and religion; and miscellaneous and unclassified fields.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education, *Earned Degrees Conferred by Institutions of Higher Education*, annually, 1959-60 through 1969-70.

Table 24.—Earned master's degrees, by field of study: United States, 1959-60 to 1980-81

A. Natural sciences and related professions

Year (1)	Total natural sciences (2)	Mathematics and statistics[1] (3)	Engineering (4)	Physical sciences[2] (5)	Biological sciences[3] (6)	Agriculture and forestry (7)	Health professions[4] (8)	Science, general program (9)
1959-60	18,232	1,757	7,159	3,376	2,154	1,554	1,838	394
1960-61	20,277	2,231	8,178	3,790	2,358	1,602	1,632	486
1961-62	22,224	2,680	8,909	3,925	2,642	1,763	1,632	673
1962-63	24,084	3,313	9,633	4,125	2,921	1,546	2,011	535
1963-64	26,920	3,597	10,827	4,561	3,296	1,651	2,279	709
1964-65	30,089	4,290	12,052	4,914	3,598	1,734	2,493	1,008
1965-66	33,586	5,007	13,675	4,987	4,232	2,091	2,833	761
1966-67	36,308	5,727	13,880	5,405	4,996	2,201	3,398	701
1967-68	39,201	6,075	15,182	5,499	5,506	2,271	3,677	991
1968-69	41,219	6,725	15,240	5,895	5,743	2,578	4,067	971
1969-70	42,125	7,095	15,593	5,935	5,800	2,267	4,488	947
1970-71[5]	44,060	7,770	15,670	5,940	6,240	2,530	4,910	1,000
				PROJECTED[6]				
1971-72	46,480	8,320	16,510	6,180	6,600	2,630	5,180	1,060
1972-73	49,430	8,910	17,490	6,500	7,070	2,750	5,580	1,130
1973-74	52,320	9,490	18,450	6,810	7,540	2,860	5,960	1,210
1974-75	55,660	10,170	19,510	7,180	8,070	3,000	6,430	1,300
1975-76	58,050	10,680	20,230	7,420	8,490	3,080	6,790	1,360
1976-77	60,880	11,280	21,070	7,710	8,970	3,180	7,220	1,450
1977-78	63,600	11,860	21,900	8,000	9,410	3,280	7,620	1,530
1978-79	66,000	12,380	22,630	8,240	9,820	3,370	7,970	1,590
1979-80	68,480	12,920	23,360	8,470	10,250	3,470	8,370	1,640
1980-81	70,860	13,420	24,050	8,720	10,650	3,580	8,730	1,710

Table 24.—Earned master's degrees, by field of study: United States, 1959-60 to 1980-81—Continued

B. Social sciences, humanities, and related professions

Year	Total social sciences, humanities, etc.	Fine arts[7]	English and journalism	Foreign languages[8]	Psychology	Social sciences[9]	Education	Library science[10]	Social work[10]	Business and commerce: Accounting	Business and commerce: Other business and commerce[11]	Other[12]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1959-60	59,460	4,809	3,192	1,156	1,406	5,965	30,424	1,814	1,987	470	4,960	3,277
1960-61	61,458	4,804	3,391	1,405	1,719	6,378	30,830	1,931	2,151	447	4,999	3,403
1961-62	66,202	5,182	3,765	1,626	1,832	7,241	32,654	2,140	2,272	511	5,557	3,422
1962-63	71,402	5,620	4,307	2,026	1,918	8,326	34,105	2,363	2,549	499	6,184	3,505
1963-64	78,610	6,020	4,807	2,391	2,059	9,395	37,171	2,717	2,851	530	6,694	3,975
1964-65	87,012	6,821	5,461	2,947	2,708	10,635	39,296	3,211	3,097	617	7,926	4,293
1965-66	106,969	8,359	6,788	3,727	3,117	12,900	45,094	3,916	3,872	862	13,327	5,007
1966-67	121,399	9,741	7,980	4,378	3,772	14,954	49,744	4,489	4,182	1,024	15,212	5,923
1967-68	137,548	10,815	8,646	5,007	4,325	16,197	56,963	5,165	4,725	1,137	18,150	6,418
1968-69	152,537	12,300	9,309	5,231	4,011	18,207	64,583	5,932	5,037	1,333	19,641	6,953
1969-70	166,166	13,160	9,342	5,363	4,111	18,489	72,361	6,511	5,640	1,083	22,160	7,946
1970-71[5]	179,940	14,210	10,000	5,420	4,820	20,500	77,190	7,120	5,850	1,040	25,230	8,560
						PROJECTED[6]						
1971-72	191,420	15,110	10,590	5,730	5,040	22,010	81,070	7,530	6,050	1,080	28,130	9,080
1972-73	206,170	16,230	11,380	6,170	5,400	23,810	86,330	8,130	6,400	1,150	31,420	9,750
1973-74	221,080	17,340	12,170	6,610	5,780	25,620	91,620	8,720	6,730	1,230	34,860	10,400
1974-75	238,140	18,620	13,100	7,100	6,190	27,690	97,750	9,410	7,140	1,320	38,630	11,190
1975-76	251,850	19,650	13,850	7,530	6,530	29,330	102,510	10,010	7,450	1,390	41,800	11,800
1976-77	268,120	20,850	14,740	8,030	6,910	31,250	108,500	10,720	7,820	1,440	45,340	12,520
1977-78	283,200	21,970	15,550	8,470	7,260	33,080	113,790	11,360	8,160	1,520	48,860	13,180
1978-79	297,300	23,010	16,320	8,890	7,610	34,790	118,690	11,960	8,430	1,580	52,240	13,780
1979-80	311,520	24,060	17,080	9,330	7,950	36,520	123,630	12,540	8,740	1,650	55,610	14,410
1980-81	325,040	25,060	17,810	9,730	8,270	38,200	128,270	13,130	9,040	1,710	58,820	15,000

[1] Includes mathematics, statistics, and computer science.

[2] Includes astronomy, chemistry, earth sciences, meteorology, physics, and other physical sciences.

[3] Includes anatomy, bacteriology, biochemistry, biology, botany, entomology, physiology, zoology, and other biological sciences.

[4] Includes dentistry, medicine and osteopathy, nursing, optometry, pharmacy, public health, veterinary medicine, and other health professions.

[5] Estimated.

[6] The estimates for 1970-71 are based on the assumption that the percentage that degrees in a particular field in 1969-70 are of the average enrollment 1 and 2 years earlier of 1st-year students working toward a master's or doctor's degree in this field will remain approximately constant.

The projections for 1971-72 through 1980-81 are based on the assumption that the percentage distribution of degrees by field for each sex will continue the 1959-60 to 1970-71 trends.

For methodological details, see appendix A, table A-2; for complete classification of degrees by field, see appendix A, "Classifications and Classification Changes."

[7] Includes architecture, music, speech and dramatic arts, and other fine and applied arts.

[8] Includes classical languages, French, German, Russian and other Slavic languages, Spanish, and other languages and language programs.

[9] Includes anthropology, economics, geography, history, international relations, political science, public administration, sociology, and other social sciences.

[10] Beginning in 1965-66, master's degrees in library science and social work include first-professional master's degrees. Data prior to 1965-66 have been adjusted to conform to this classification. For method of estimating, see "Estimation Methods," appendix A, section 1.

[11] Includes hotel and restaurant administration, secretarial studies, other business and commerce programs, distributive education, finance and banking, marketing, transportation, real estate and insurance, and business education.

[12] Includes home economics; law; military, naval, or air force science; theology; philosophy and religion; and miscellaneous and unclassified fields.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Degree and enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Earned Degrees Conferred by Institutions of Higher Education,* 1959-60 through 1969-70; (2) *Enrollment for Advanced Degrees,* fall 1961, 1962, and 1963; (3) *Enrollment for Master's and Higher Degrees, Fall 1964: Summary Report;* (4) *Enrollment for Master's and Higher Degrees, Fall 1965: Summary Report;* and (5) *Students Enrolled for Advanced Degrees,* fall 1966 through 1970.

Table 25.—Earned doctor's degrees (except first-professional), by field of study: United States, 1959-60 to 1980-81

A. Natural sciences and related professions

Year (1)	Total natural sciences (2)	Mathematics and statistics[1] (3)	Engineering (4)	Physical sciences[2] (5)	Biological sciences[3] (6)	Agriculture and forestry (7)	Health professions[4] (8)	Science, general program (9)
1959-60	4,697	303	786	1,838	1,205	456	107	2
1960-61	5,070	344	943	1,991	1,193	463	133	3
1961-62	5,684	396	1,207	2,122	1,338	472	148	1
1962-63	6,326	490	1,378	2,380	1,455	462	157	4
1963-64	7,137	596	1,693	2,455	1,625	573	192	3
1964-65	8,316	688	2,124	2,829	1,928	557	173	17
1965-66	9,127	801	2,304	3,045	2,097	618	251	11
1966-67	10,128	870	2,614	3,462	2,255	670	250	7
1967-68	11,225	983	2,932	3,593	2,784	679	243	11
1968-69	12,513	1,161	3,377	3,859	3,051	753	283	29
1969-70	13,873	1,343	3,681	4,312	3,289	872	357	19
1970-71[5]	14,650	1,480	3,820	4,440	3,540	940	400	30
				PROJECTED[6]				
1971-72	15,220	1,590	3,960	4,550	3,730	960	400	30
1972-73	15,910	1,700	4,190	4,690	3,850	990	460	30
1973-74	16,570	1,860	4,410	4,640	4,030	1,080	520	30
1974-75	17,360	2,010	4,490	4,700	4,360	1,210	550	40
1975-76	18,830	2,180	4,890	5,080	4,690	1,340	610	40
1976-77	20,180	2,330	5,150	5,460	5,030	1,470	660	50
1977-78	21,530	2,620	5,530	5,490	5,500	1,610	730	50
1978-79	23,080	2,780	5,650	6,300	5,790	1,720	780	60
1979-80	24,580	3,010	5,890	6,740	6,190	1,850	840	60
1980-81	26,060	3,230	6,100	7,170	6,590	2,000	900	70

Table 25.—Earned doctor's degrees (except first-professional), by field of study: United States, 1959-60 to 1980-81—Continued

B. Social sciences, humanities, and related professions

Year	Total social sciences, humanities, etc.[1]	Fine arts[7]	English and journalism	Foreign languages[8]	Psychology	Social sciences[9]	Education	Library science	Social work	Business and commerce		Other[11]
										Accounting	Other business and commerce[10]	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1959-60	5,132	380	405	232	641	1,282	1,474	19	23	15	139	522
1960-61	5,505	410	408	264	703	1,369	1,594	14	36	15	180	512
1961-62	5,938	425	493	261	781	1,391	1,737	10	32	27	229	552
1962-63	6,496	467	527	277	844	1,557	1,943	17	40	23	250	551
1963-64	7,353	519	570	379	939	1,803	2,191	13	43	21	286	589
1964-65	8,151	545	706	436	1,004	2,027	2,372	12	34	32	319	664
1965-66	9,110	588	714	518	1,206	2,155	2,711	19	64	34	397	704
1966-67	10,487	642	871	578	1,393	2,526	3,143	16	64	43	451	760
1967-68	11,866	698	1,009	713	1,447	2,850	3,660	22	77	33	456	901
1968-69	13,675	919	1,173	751	1,551	3,196	4,504	17	90	40	538	896
1969-70	15,993	1,011	1,222	882	1,668	3,842	5,518	40	89	56	617	1,048
1970-71[5]	17,350	1,120	1,310	1,010	1,740	3,960	6,210	40	100	60	700	1,100
						PROJECTED[6]						
1971-72	19,380	1,260	1,440	1,140	1,900	4,220	7,240	50	110	50	790	1,180
1972-73	21,990	1,400	1,520	1,210	2,140	4,520	8,770	50	130	50	910	1,290
1973-74	23,630	1,480	1,540	1,210	2,340	4,760	9,680	50	130	60	1,020	1,360
1974-75	25,740	1,630	1,640	1,210	2,700	5,310	10,390	50	140	60	1,180	1,430
1975-76	28,170	1,810	1,770	1,300	2,890	5,770	11,530	50	160	70	1,300	1,520
1976-77	30,720	1,960	1,900	1,410	3,120	6,260	12,740	50	170	70	1,430	1,610
1977-78	34,070	2,160	2,070	1,540	3,430	6,920	14,270	70	190	80	1,590	1,750
1978-79	36,420	2,300	2,200	1,630	3,650	7,340	15,390	80	200	80	1,720	1,830
1979-80	39,520	2,470	2,360	1,760	3,920	7,920	16,870	80	220	90	1,890	1,940
1980-81	42,640	2,660	2,510	1,880	4,210	8,510	18,380	80	230	90	2,040	2,050

[1] Includes mathematics, statistics, and computer science.

[2] Includes astronomy, chemistry, earth sciences, meteorology, physics, and other physical sciences.

[3] Includes anatomy, bacteriology, biochemistry, biology, botany, entomology, physiology, zoology, and other biological sciences.

Includes dentistry, medicine and osteopathy, nursing, optometry, pharmacy, public health, veterinary medicine, and other health professions.

[5] Estimated.

[6] The estimates for 1970-71 and the projections for 1971-72 through 1974-75 are based on the assumption that the percentage that degrees in a particular field in 1969-70 are of the average enrollment 5 and 6 years earlier of 1st-year students working toward a master's or doctor's degree in this field will remain approximately constant.

The projections for 1975-76 through 1980-81 are based on the assumption that the percentage distribution of degrees by field for each sex will continue the 1959-60 to 1974-75 trends.

For methodological details, see appendix A, table A-2; for complete classification of degrees by field, see appendix A, "Classifications and Classification Changes."

[7] Includes architecture, music, speech and dramatic arts, and other fine and applied arts.

[8] Includes classical languages, French, German, Russian and other Slavic languages, Spanish, and other languages and language programs.

[9] Includes anthropology, economics, geography, history, international relations, political science, public administration, sociology, and other social sciences.

[10] Includes hotel and restaurant administration, secretarial studies, other business and commerce programs, distributive education, finance and banking marketing, transportation, real estate and insurance, and business education.

[11] Includes home economics; law; military, naval, or air force science; theology; philosophy and religion; and miscellaneous and unclassified fields.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Degree and enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Earned Degrees Conferred by Institutions of Higher Education*, 1959-60 through 1969-70; (2) *Enrollment for Advanced Degrees*, fall 1961, 1962 and 1963; (3) *Enrollment for Master's and Higher Degrees, Fall 1964;* (4) *Enrollment for Master's and Higher Degrees, Fall 1965: Summary Report;* and (5) *Students Enrolled for Advanced Degrees*, fall 1966 through 1970.

CHAPTER IV

Teachers

Marie G. Fullam and John F. Beamer, Jr.

Elementary and Secondary Schools

There were 2.6 million professional persons employed in the public and private elementary and secondary day schools in fall 1970. These included principals, supervisors, librarians, guidance and psychological personnel, and classroom teachers. Of the total number, 90 percent were classroom teachers. The numbers of professional persons employed in the regular public school system were reported to the U.S. Office of Education by the State departments of education in each of the 50 States and the District of Columbia. The numbers in the regular nonpublic day schools were reported by the individual schools in Office of Education surveys.

Classroom teachers (table 26)

The projection of teachers in both public and nonpublic schools depends upon the projection of enrollments (table 4) and upon the projection of pupil-teacher ratios (table 27).

Classroom teachers are reported separately by secondary and elementary schools. The former comprise the junior high and senior high schools; the latter, the elementary or grade schools. The number of classroom teachers in secondary schools (public and nonpublic) increased from 609,000 in 1960 to 1,017,000 in 1970 and is expected to be 1,044,000 in 1980. Those in public and nonpublic elementary schools increased from 991,000 in 1960 to 1,295,000 in 1970 and are expected to be 1,305,000 in 1980. The number of teachers in elementary schools is expected to decrease through 1976, partly because of the shift of public seventh- and eighth-grade pupils from elementary to secondary junior high schools, but primarily because of the decrease in the population aged 5-13 years (see appendix B, table B-1). The number of teachers in the secondary schools, on the other hand, is expected to rise through 1976, partly because of the continuing shift of pupils from the seventh and eighth grades into junior high (secondary) schools but primarily because the smaller number of children born in the 1960's will not begin to reach high school age until 1974.

Pupil-teacher ratios (table 27)

The pupil-teacher ratios are projected separately for public and nonpublic schools and for elementary and secondary schools. For each category, the projection is based on the assumption that the 1960-70 trend will continue to 1980. Pupil-teacher ratios in nonpublic elementary schools are still somewhat higher than in public elementary schools. However, the nonpublic elementary ratio is now approaching the public elementary ratio, primarily due to the reduction of this ratio in Catholic elementary schools.

Demand for additional classroom teachers (tables 28, 29)

The total demand for additional public elementary and secondary school teachers (not employed in the public schools the previous year) includes those needed to allow for enrollment changes, for lowering pupil-teacher ratios, and for replacement of teachers leaving the profession (turnover). During the period fall 1966 to fall 1970, the cumulative demand for additional public school teachers (including returnees to the profession) was 1,094,000. It is expected to decrease to 852,000 from 1971 to 1975 and then, remain about the same at 880,000 from 1976 to 1980. This means that 1.7 million new teachers or returnees to the profession are expected to be employed by the public schools during the 10 years 1971 through 1980.

The projected demand for additional public school teachers is shown in table 28. The number of teachers necessary to take care of enrollment changes and pupil-teacher ratio changes was computed for each year as the difference between the total employed for the current year and the total employed for the preceding year. The number for turnover was based on the assumption that 8 percent of the total classroom teachers will leave the profession temporarily or permanently each year[1].

The total demand for additional nonpublic school teachers was 57,000 from 1966 to 1970 and is expected to drop to 26,000 from 1971 to 1975 and 32,000 from 1976 to 1980. This decrease in total teacher demand is due to the expected decrease in enrollment in nonpublic schools (table 4) and the leveling off of the pupil-teacher ratio in these schools (table 27).

The projected demand for additional nonpublic elementary and secondary school teachers is shown in table 29. The numbers for taking care of enrollment changes and pupil-teacher ratio changes were computed in the same manner as for public schools, and the number for turnover is based on the assumption that 4 percent (one-half the public school rate) of the nonpublic school teachers will leave the profession permanently or temporarily each year. This lower rate (4 percent) was assumed because large numbers of nonpublic school teachers belong to religious orders, where the turnover is presumably small.

Instructional staff (table 30)

Instructional staff in public elementary and secondary schools includes principals, supervisors, librarians, and guidance and psychological personnel, as well as classroom teachers. Instructional staff and classroom teachers are not reported separately for nonpublic schools. Since it is believed that the primary responsibility of most professional personnel employed by the nonpublic schools is classroom teaching, the number of the instructional staff shown here is the same as the number of the teachers.

Projected instructional staff is shown in table 30. Instructional staff in public elementary and secondary schools increased from 1.5 million in 1960 to 2.3 million in 1970 and is expected to be 2.5 million in 1980.

The public school instructional staff projection is based on the assumption that instructional staff as a percentage of classroom teachers will continue the 1960-70 trend to 1980. The ratio of total public school instructional staff to classroom teachers increased from 1.08 in 1960 to 1.13 in 1970 and is expected to be 1.15 by 1980. These ratios were applied to the public classroom teacher figures shown in table 26 to obtain the projections of public instructional staff. Nonpublic school instructional staff, as previously stated, was assumed to be 100 percent of the classroom teachers shown in table 26.

Institutions of Higher Education

The faculty data for institutions of higher education shown in tables 31 to 33 are from (1) reports in 1966 through 1968 on the number of persons by primary position and (2) estimates from biennial reports, 1959-60 through 1963-64, on the number of positions.

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[1] U.S. Department of Health, Education, and Welfare, Office of Education, *Teacher Turnover in Public Elementary and Secondary Schools, 1959-60,* by Frank Lindenfeld, Washington, D.C.: U.S. Government Printing Office, 1963.

Since some positions overlap, with a single person filling more than one position, the number of positions is greater than the number of persons. Therefore, the biennial data for 1959-60 through 1963-64 on positions were converted to persons in each year based on the ratio of positions to persons for total professional staff for each type and control of institution.

Instructional staff for resident courses (table 31)

Total full-time and part-time instructional staff for resident courses in all institutions of higher education (table 31) increased from 276,000 in 1960 to 590,000 in 1970 and is expected to be 873,000 in 1980. These figures include full-time and part-time instructors and above as well as full-time and part-time junior instructional staff for instruction in resident courses. (Junior instructional staff includes assistant instructors, teaching fellows, teaching assistants, and laboratory assistants.)

The total of full-time and part-time instructional staff for resident courses was projected separately for publicly controlled 4-year and 2-year institutions and privately controlled 4-year and 2-year institutions and the four results summed to obtain the total for all institutions. The projections are based on the assumption that student-staff ratios (number of students divided by number of staff) in each institutional control and type category will continue the 1960-70 trend to 1980. To obtain the projections, projected enrollments in each of the institutional control and type categories (tables 7 and 8) were divided by the projected student-staff ratios in corresponding categories.

Full-time-equivalent instructional staff for resident courses (table 32)

Full-time-equivalent instructional staff for resident courses in all institutions increased from 202,000 in 1960 to 468,000 in 1970 and is expected to rise to 693,000 in 1980. These figures include full-time staff and the full-time equivalent of part-time staff for instructor or above and junior instructional staff. In 1970, in all institutions, 91 percent of the full-time-equivalent instructional staff members with the rank of instructor or above were employed full time, and 34 percent of the full-time-equivalent junior instructional staff members were employed full time.

Demand for full-time-equivalent instructional staff (table 33)

During the 5 years 1966 through 1970, the total demand for additional full-time-equivalent instructional staff was 2,055,000. The totals are expected to be 2,769,000 in 1971 through 1975, and 3,330,000 in 1976 through 1980.

The demand for this additional staff is projected as the total of staff required for increased enrollment and student-staff ratio changes and for replacement of those who have left the profession either temporarily or permanently. Full-time-equivalent staff required for increased enrollment and student-staff ratio changes is computed as the difference between the total number employed in successive years. Replacement requirements are estimated at 6 percent of the total number of full-time-equivalent staff employed in the previous year.

The assumption of a 6-percent replacement rate is based on unpublished data from a 1963 Office of Education study which showed that about 5 percent of the full-time instructors and above in 4-year institutions intended to leave employment in institutions of higher education during the following year. With an estimated additional 1 percent for mortality, the annual replacement rate is then 6 percent.

Table 26.—Classroom teachers in regular elementary and secondary day schools, by institutional control and organizational level: United States, fall 1960 to 1980[1]

[In thousands]

Year (fall)	Total public and nonpublic			Public			Nonpublic (estimated)[2]		
	K-12	Elementary	Secondary	K-12	Elementary	Secondary	K-12	Elementary	Secondary
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960	1,600	991	609	1,408	858	550	192	133	[3] 59
1961	1,668	1,015	653	1,461	869	592	207	[3] 146	61
1962	1,727	1,036	690	1,508	886	621	219	150	69
1963	1,806	1,062	743	1,578	908	669	228	154	74
1964	1,882	1,096	786	1,648	940	708	234	156	78
1965	1,951	1,122	828	1,710	965	746	240	[3] 158	[3] 82
1966	2,028	1,162	866	1,789	1,006	783	239	156	83
1967	2,087	1,193	895	1,855	1,040	815	232	152	81
1968	2,162	1,223	938	1,936	1,076	860	225	[3] 147	[3] 78
1969	2,251	1,262	989	2,014	1,108	906	237	154	83
1970	2,312	1,295	1,017	2,061	1,132	929	251	163	88
				PROJECTED[4]					
1971	2,322	1,278	1,044	2,078	1,122	956	244	156	88
1972	2,326	1,260	1,066	2,085	1,107	978	241	153	88
1973	2,325	1,240	1,085	2,087	1,090	997	238	150	88
1974	2,323	1,225	1,098	2,088	1,078	1,010	235	147	88
1975	2,309	1,205	1,104	2,081	1,065	1,016	228	140	88
1976	2,311	1,203	1,108	2,087	1,067	1,020	224	136	88
1977	2,312	1,210	1,102	2,091	1,077	1,014	221	133	88
1978	2,317	1,234	1,083	2,099	1,104	995	218	130	88
1979	2,327	1,263	1,064	2,112	1,136	976	215	127	88
1980	2,349	1,305	1,044	2,134	1,178	956	215	127	88

[1] Includes full-time and part-time classroom teachers (in 1970, 99 percent of the teachers in public schools were full time). Does not include teachers in independent nursery and kindergarten schools, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, federally operated schools on Federal installations, and other schools not in the regular school system.

[2] Instructional staff and classroom teachers are not reported separately. All data unless otherwise indicated are estimated. Estimates through 1964 were revised in spring 1968 on basis of 1965 Office of Education survey.

[3] Actual data from Office of Education surveys.

[4] The projection of teachers in both public and nonpublic schools depends upon the projection of enrollments (table 4) and upon the projection of pupil-teacher ratios (table 27).

For further methodological details, see appendix A, table A-3.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Classroom teacher data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Statistics of Public Schools*, fall 1964 through 1970; (2) *Enrollment, Teachers, and Schoolhousing*, fall 1960 through 1963; (3) prepublication data from *Statistics of Nonpublic Elementary and Secondary Schools, 1968-69;* (4) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66;* (5) *Nonpublic School Enrollment in Grades 9-12, Fall 1964 and Graduates, 1963-64;* (6) *Statistics of Nonpublic Elementary Schools, 1961-62;* and (7) *Statistics of Nonpublic Secondary Schools, 1960-61.*

Table 27.—Pupil-teacher ratios in regular elementary and secondary day schools, by institutional control and organizational level: United States, fall 1960 to 1980[1]

Year (fall) (1)	Public		Nonpublic (estimated)[2]	
	Elementary (2)	Secondary (3)	Elementary (4)	Secondary (5)
1960	28.4	21.7	36.0	[3] 18.3
1961	28.3	21.7	[3] 33.3	18.0
1962	28.5	21.7	32.8	17.7
1963	28.4	21.5	32.3	17.4
1964	27.9	21.5	31.8	17.1
1965	27.6	20.8	[3] 31.3	[3] 16.7
1966	27.0	20.4	30.8	16.9
1967	26.3	20.3	30.2	17.2
1968	25.4	20.5	[3] 29.7	[3] 17.4
1969	24.8	20.0	27.2	16.9
1970	24.3	19.8	25.2	16.0
	PROJECTED[4]			
1971	24.1	19.7	25.0	16.0
1972	23.9	19.6	24.8	16.0
1973	23.7	19.5	24.6	16.0
1974	23.5	19.4	24.5	16.0
1975	23.4	19.3	24.3	16.0
1976	23.2	19.2	24.2	16.0
1977	23.1	19.1	24.0	16.0
1978	22.9	19.1	23.9	16.0
1979	22.8	19.0	23.7	16.0
1980	22.7	18.9	23.6	16.0

[1] Includes full-time and part-time classroom teachers (in 1970, 99 percent of the teachers in public schools were full time). Does not include teachers in independent nurseries and kindergarten schools, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, federally operated schools on Federal installations, and other schools not in the regular school system.

[2] Instructional staff and classroom teachers are not reported separately. All data unless otherwise indicated are estimated. Estimates through 1964 were revised in spring 1968 on basis of 1965 Office of Education survey.

[3] Actual data from Office of Education surveys.

[4] The projections of pupil-teacher ratios in public elementary and secondary schools and in nonpublic elementary schools are based on the assumption that the ratio of enrollment to the number of teachers will follow the 1960-70 trend to 1980.

The projection of pupil-teacher ratios in nonpublic secondary schools is based on the assumption that the 1970 pupil-teacher ratio will remain constant to 1980.

Decreases in the pupil-teacher ratios in public elementary and secondary schools due to the Elementary and Secondary Education Act of 1965 are included in the trend projections.

For further methodological details, see appendix A, table A-3.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Classroom teacher data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Statistics of Public Schools,* fall 1964 through 1970; (2) *Enrollment, Teachers, and Schoolhousing,* fall 1960 through 1963; (3) prepublication data from *Statistics of Nonpublic Elementary and Secondary Schools, 1968-69;* (4) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66;* (5) *Statistics of Nonpublic Elementary Schools, 1961-62;* and (6) *Statistics of Nonpublic Secondary Schools, 1960-61.*

Table 28.—Estimated demand for classroom teachers in regular public elementary and secondary day schools: United States, fall 1965 to 1980[1]

[In thousands]

Year (fall)	Total teacher demand	Demand for additional certificated teachers[2]			
		Total	For enrollment changes	For pupil-teacher ratio changes	For teacher turnover
(1)	(2)	(3)	(4)	(5)	(6)
1965.	1,710	. . . .	. . . .	. . . .	. . . .
1966.	1,789	215	37	41	137
1967.	1,855	209	35	31	143
1968.	1,936	229	51	30	148
1969.	2,014	233	31	47	155
1970.	2,061	208	15	32	161
1966-70.	. . . .	1,094	169	181	744
		PROJECTED[3]			
1971.	2,078	182	3	14	165
1972.	2,085	173	-7	14	166
1973.	2,087	169	-12	14	167
1974.	2,088	168	-13	14	167
1975.	2,081	160	-16	9	167
1971-75.	. . . .	852	-45	65	832
1976.	2,087	172	-8	14	166
1977.	2,091	161	-16	10	167
1978.	2,099	175	-2	10	167
1979.	2,112	181	4	9	168
1980.	2,134	191	12	10	169
1976-80.	. . . .	880	-10	53	837

[1] Includes full-time and part-time classroom teachers (in 1970, 99 percent of teachers in the public schools were full time). Does not include teachers in independent nurseries and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, federally operated schools on Federal installations, and other schools not in the regular school system.

[2] The estimates and projections of demand for additional certificated teachers were based on the following assumptions: (1) For changes in pupil-teacher ratios, the number of additional teachers needed is the total teacher demand in a given year less the estimate of what the total teacher demand in the same year would have been if the pupil-teacher ratio in the previous year had remained constant. (2) For enrollment changes, the number of additional teachers needed is the total needed for both enrollment changes and pupil-teacher ratio changes less the number needed for pupil-teacher ratio changes alone. The number of additional teachers needed for both enrollment changes and pupil-teacher ratio changes is the total teacher demand in a given year less the total teacher demand in the previous year. (3) For teacher turnover, the number of additional teachers needed to replace those leaving the profession either temporarily or permanently will be 8 percent of the total employed in the previous year. The 8-percent separation rate is based on the Office of Education study ***Teacher Turnover in Public Elementary and Secondary Schools, 1959-60.***

The projected demand makes no allowance for replacement of teachers who hold substandard certificates (about 5 percent of employed teachers).

[3] The projection of classroom teachers in public schools by organizational level and institutional control is based on the assumption that the pupil-teacher ratio will follow the 1960-70 trend to 1980.

For further methodological details, see appendix A, table A-3.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Statistics of Public Schools,* fall 1964 through 1970; and (2) *Enrollment, Teachers, and Schoolhousing,* 1960 through 1963.

Table 29.—Estimated demand for classroom teachers in regular nonpublic elementary and secondary day schools: United States, fall 1965 to 1980

Year (fall)	Total teacher demand	Demand for additional certificated teachers[1]			
		Total	For enrollment changes	For pupil-teacher ratio changes	For teacher turnover
(1)	(2)	(3)	(4)	(5)	(6)
1965.	240	. . . . .	. . . . . .	. . . . .	. . . . .
1966.	243	13	1	2	10
1967.	232	-1	-12	1	10
1968.	225	1	-9	1	9
1969.	237	21	-4	16	9
1970.	251	23	-3	17	9
1966-70	. . . .	57	-27	37	47
			PROJECTED		
1971.	244	3	-8	1	10
1972.	241	7	-4	1	10
1973.	238	7	-4	1	10
1974.	235	7	-4	1	10
1975.	228	2	-8	1	9
1971-75	. . . .	26	-28	5	49
1976.	224	5	-4	0	9
1977.	221	6	-4	1	9
1978.	218	6	-4	1	9
1979.	215	6	-4	1	9
1980.	215	9	0	0	9
1976-80.	. . . .	32	-16	3	45

[1] The estimates and projections of demand for additional certificated teachers were based on the following assumptions: (1) For changes in pupil-teacher ratios, the number of additional teachers needed is the total teacher demand in a given year less the estimate of what the total teacher demand in the same year would have been if the pupil-teacher ratio in the previous year had remained constant. (2) For enrollment changes, the number of additional teachers needed is the total needed for both enrollment changes and pupil-teacher ratio changes less the number needed for pupil-teacher ratio changes alone. The number of additional teachers needed for both enrollment changes and pupil-teacher ratio changes is the total teacher demand in a given year less the total teacher demand in the previous year. (3) For teacher turnover, the number of additional teachers needed to replace those leaving the nonpublic schools either temporarily or permanently is assumed to be 4 percent of the total employed in the previous year.

For further methodological details, see appendix A, table A-3.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) Prepublication data from *Statistics of Nonpublic Elementary and Secondary Schools, 1968-69;* (2) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66;* (3) *Statistics of Nonpublic Elementary Schools, 1961-62;* and (4) *Statistics of Nonpublic Secondary Schools, 1960-61.*

Table 30.—Estimated instructional staff in regular elementary and secondary day schools by institutional control: United States, fall 1960 to 1980[1]

[In thousands]

Year (fall) (1)	Total (2)	Public schools (3)	Nonpublic schools[2] (4)
1960	1,717	1,525	192
1961	1,795	1,588	207
1962	1,860	1,641	219
1963	1,945	1,717	228
1964	2,047	1,813	234
1965	2,125	1,885	240
1966	2,223	1,984	239
1967	2,303	2,071	232
1968	2,391	2,166	225
1969	2,496	2,259	237
1970	2,570	2,319	251
		PROJECTED[3]	
1971	2,588	2,344	244
1972	2,599	2,358	241
1973	2,605	2,367	238
1974	2,607	2,372	235
1975	2,598	2,370	228
1976	2,605	2,381	224
1977	2,611	2,390	221
1978	2,621	2,403	218
1979	2,640	2,425	215
1980	2,669	2,454	215

[1] Instructional staff includes principals, supervisors, librarians, and guidance and psychological personnel, as well as full-time and part-time classroom teachers. (In 1970, 99 percent of classroom teachers were full time.) Does not include instructional staff in independent nursery and kindergarten schools, residential schools for exceptional children, subcollegiate departments of higher education, Federal schools for Indians, federally operated schools on Federal installations, and other schools not in the regular school system.

[2] Instructional staff and classroom teachers are not reported separately. All data are wholly or partially estimated. Estimates through 1964 were revised in spring 1968 on basis of 1965 Office of Education survey.

[3] Projections of instructional staff in public schools are based on the assumption that the ratio of instructional staff to classroom teachers will follow the 1959-67 trend to 1980.

For further methodological details, see appendix A, table A-3.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Instructional staff data and estimates are based on U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Statistics of State School Systems,* biennial circulars 1959-60 through 1967-68; (2) prepublication data from *Statistics of Nonpublic Elementary and Secondary Schools, 1968-69;* (3) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66;* (4) *Statistics of Nonpublic Elementary Schools, 1961-62;* and (5) *Statistics of Nonpublic Secondary Schools, 1960-61.*

Table 31.—Estimated full-time and part-time instructional staff for instruction in resident courses in all institutions of higher education by, professional rank: United States, fall 1960 to 1980[1]

[In thousands]

Year (fall) (1)	Total (2)	Instructor or above			Junior instructor		
		Total (3)	Full time (4)	Part time (5)	Total (6)	Full time (7)	Part time (8)
1960[2]	276	236	154	82	40	8	32
1961	292	248	162	86	44	9	35
1962[2]	312	265	173	92	47	10	37
1963	331	281	184	97	50	10	40
1964[2]	367	307	212	95	60	12	48
1965[2]	412	339	248	91	73	15	58
1966	445	361	278	83	84	17	67
1967	484	389	299	90	95	14	81
1968	523	427	332	95	96	16	80
1969	559	456	356	100	103	18	85
1970	590	481	375	106	109	19	90
				PROJECTED[3]			
1971	630	514	401	113	116	20	96
1972	664	542	423	119	122	20	102
1973	697	569	444	125	128	21	107
1974	731	596	465	131	135	23	112
1975	767	626	488	138	141	24	117
1976	797	650	507	143	147	25	122
1977	823	671	523	148	152	26	126
1978	844	689	538	151	155	26	129
1979	859	701	547	154	158	27	131
1980	873	712	555	157	161	28	133

[1] For method of estimating instructional staff, see appendix A, "Estimation Methods," sections 4a-4c.

[2] Interpolated.

[3] The projection of total full-time and part-time instructional staff for resident courses was computed separately by control and type of institutions and then summed for all institutions. For each category the projection is based on the assumption that the ratio of total enrollment to total instructional staff for resident courses will follow the 1960-70 trend to 1980.

The projections of instructional staff for full-time instructor or above, part-time instructor or above, full-time junior instructor, and part-time junior instructor are based on the percentage that each type of position was of total full-time and part-time instructional staff for resident courses in 1968. These percentages were 63.7, 18.0, 3.1, and 15.2, respectively, and are assumed to remain at the 1968 level to 1980.

For further methodological details, see appendix A, table A-3.

NOTE.—Because of rounding, detail may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Faculty and Other Professional Staff in Institutions of Higher Education,* biennially, first term 1959-60 to 1963-64; (2) *Numbers and Characteristics of Employees in Institutions of Higher Education,* fall 1966 and 1967; (3) prepublication data from *Teaching and Research Staff by Academic Fields,* fall 1968.

Table 32.—Estimated full-time-equivalent instructional staff for resident courses in all institutions of higher education by professional rank: United States, fall 1960 to 1980[1]

[In thousands]

Year (fall)	Estimated total full-time equivalent	Instructor or above			Junior instructor		
		Total	Full time	Full-time equivalent of part time	Total	Full time	Full-time equivalent of part time
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960[2]	202	181	154	27	21	8	13
1961	214	191	162	29	23	9	14
1962[2]	228	203	173	30	25	10	15
1963	242	216	184	32	26	10	16
1964[2]	274	243	212	31	31	12	19
1965[2]	317	279	248	31	38	15	23
1966	351	307	278	29	44	17	27
1967	378	331	299	32	47	14	33
1968	414	365	332	33	49	16	33
1969	444	391	356	35	53	18	35
1970	468	412	375	37	56	19	37
	PROJECTED[3]						
1971	501	441	401	40	60	20	40
1972	527	465	423	42	62	20	42
1973	553	488	444	44	65	21	44
1974	580	511	465	46	69	23	46
1975	608	536	488	48	72	24	48
1976	632	557	507	50	75	25	50
1977	653	575	523	52	78	26	52
1978	670	591	538	53	79	26	53
1979	682	601	547	54	81	27	54
1980	693	610	555	55	83	28	55

[1] Estimated. See appendix A, "Estimation Methods," sections 4a-4d.

[2] Interpolated.

[3] The projection of full-time equivalent of part-time instructional staff for resident courses is based on the following assumptions: (1) Full-time equivalent of part-time instructor or above will remain constant to 1980 at the 1967 level of 35 percent; and (2) full-time equivalent of junior instructional staff will remain constant to 1980 at the 1967 level of 41 percent.

For further methodological details, see appendix A, table A-3.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Faculty and Other Professional Staff in Institutions of Higher Education*, biennially, first term 1959-60 to 1963-64; (2) *Numbers and Characteristics of Employees in Institutions of Higher Education*, fall 1966 and 1967; and (3) prepublication data from *Teaching and Research Staff by Academic Fields*, fall 1968.

Table 33.—Estimated demand for full-time-equivalent instructional staff in institutions of higher education: United States, fall 1965 to 1980

[In thousands]

Year (fall)	Full-time equivalent instructional staff[1]	Additional full-time-equivalent instructional staff needed		
		Total	For increased enrollment and changes of student-staff ratio	For replacement
(1)	(2)	(3)	(4)	(5)
1965	317	....	....	....
1966	351	53	34	19
1967	378	48	27	21
1968	414	59	36	23
1969	444	55	30	25
1970	468	51	24	27
1966-70	2,055	266	151	115
	PROJECTED[2]			
1971	501	61	33	28
1972	527	56	26	30
1973	553	58	26	32
1974	580	60	27	33
1975	608	63	28	35
1971-75	2,769	298	140	158
1976	632	60	24	36
1977	653	59	21	38
1978	670	56	17	39
1979	682	52	12	40
1980	693	52	11	41
1976-80	3,330	279	85	194

[1] For the method of estimating and projecting full-time-equivalent instructional staff, see table 32, footnotes 2 and 3.

[2] The projection of additional full-time-equivalent professional staff for increased enrollment and for reduction of the student-staff ratio was computed as the difference between the total full-time-equivalent professional staff employed in 2 successive years.

The projection of additional full-time-equivalent professional staff for replacement of those leaving the profession, temporarily or permanently, was estimated at 6 percent of the total full-time-equivalent professional staff employed in the previous year.

For methodological details, see appendix table A-3.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Faculty and Other Professional Staff in Institutions of Higher Education,* biennially, first term 1959-60 to 1963-64; (2) *Numbers and Characteristics of Employees in Institutions of Higher Education,* fall 1966 and 1967 and (3) prepublication data from *Teaching and Research Staff by Academic Fields,* fall 1968.

CHAPTER V

Expenditures of Educational Institutions

Forrest W. Harrison and C. George Lind

Explanations and Definitions

The main tables in this chapter include only expenditures of regular public and nonpublic elementary and secondary schools and institutions of higher education in the 50 States and the District of Columbia. This means that "other" and "special" institutions are not included.

"Other" institutions include elementary and secondary residential schools for exceptional children (public and nonpublic), Federal schools for Indians (public), and federally operated elementary and secondary schools on military posts (public). It is estimated that in 1970-71 expenditures of "other" schools were about $200 million for public and $100 million for nonpublic schools in this category. Almost all "other" schools, including nonpublic, are nonprofitmaking institutions.

"Special" institutions include schools such as trade schools or business colleges not in the regular school or college framework. Expenditure data are not available for "special" schools, but it is estimated that they spend approximately $1.2 billion per year. This estimate is based on a Bureau of the Census estimate that approximately 1.5 million persons aged 5 to 34 years were enrolled in "special" schools in October 1970.[1] If an average expenditure per student of about $800 is assumed, the total expenditures for these schools would be about $1.2 billion. Almost all "special" schools are nonpublic profitmaking institutions.

Regular institutions include public and most nonprofitmaking nonpublic elementary and secondary schools (kindergarten through grade 12), plus the institutions of higher education offering degree-credit courses, and a small number of technical and professional schools. Most of these schools and colleges are oriented toward regular academic programs, but some of them are primarily technical training institutions or offer both academic and vocational courses. As noted, the main tables and discussions here are for these regular institutions. However, "other" schools are included in the discussion and table on pages 70 and 71-75.

Total expenditures include all funds expended for capital outlay, current expenditures, and interest. They exclude repayment of debt and transfers of funds that would result in duplication.

Capital outlay includes expenditures which result in additions to plant assets; this includes the expenditures by public school building authorities but excludes lease or rental payments made to these agencies. Borrowed money is included; a large percentage of the funds expended for capital outlay was received from loans. It is estimated that 81 percent of the capital outlay for public elementary and secondary schools in 1967-68 was for land and buildings; the remaining 19 percent, for new schools buses and other equipment. The proportion for equipment could be higher than 19 percent in 1970-71 because a substantial amount of the funds available from the Elementary and Secondary Education Act of 1965 was spent for equipment. About 81 percent of the capital outlay by institutions of higher education was for land and buildings; the remaining 19 percent, for equipment.

Current expenditures include any expenditures except those for repayment of debt and capital outlay. Interest is generally excluded from the current expenditures shown here because it is treated separately. The largest current expense item is salaries of instructional staff, accounting for about 61 percent of current expenditures. The remaining 39 percent goes for transportation, maintenance, etc.

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[1] U.S. Department of Commerce, Bureau of the Census, *Current Population Reports,*"School Enrollment: October 1970," Series P-20, No. 222, 1971.

Interest includes all funds expended for the use of money. Most of the interest shown here was expended on account of long-term debt that was incurred for constructing buildings.

Expenditures by source of funds

Regular and "other" schools

Although no attempt was made to project amounts of funds from the various sources to be expended by educational institutions, estimates are shown by source for the past 10 years. To do this, estimates for "other" schools were added to the total expenditures shown in table 35 for the appropriate years. The resulting total expenditures for regular and "other" schools were then broken down by source of funds by first adjusting receipts to equate them with expenditures and then assuming a continuation of the 1961-62 through 1967-68 trend in the amount of receipts from each source. Receipts and expenditures were equated mainly by including loans and excluding the receipts used for repayment of loans.

Total expenditures are defined as the expenditure of all money from both loans and grants and exclude only the funds used for reducing debt and transfers that result in duplication. Expenditures from Federal, State, and local sources are defined as institutional expenditures of all grants (but not loans) of funds received from these sources. Expenditures from all other sources include all funds received by the institutions that were not received as grants from Federal, State, and local governments. Loans to institutions of higher education from any source are included under "all other." (It is estimated that in 1970-71, $209 million in Federal loans to institutions of higher education was included in the "all other" category shown here.)

Since the foregoing definitions are designed to show sources of funds through the eyes of educational institutions, the Federal figures shown in the preceding table are different from those shown in appendix B, table B-8, on Federal funds for education. The three main reasons are as follows:

(1) Different items are included. For example, the table on Federal funds in appendix B shows grants and loans to individuals, which would appear in institutional accounts here as receipts from tuition or auxiliary services; or the money may be spent for board and room outside the institution and not be a receipt of the institution from any source.

(2) The same items may be handled differently. For example, the table on Federal funds shows only basic research for institutions of higher education; the institutions include some applied research grants from the Federal Government.

(3) The table on Federal funds generally shows obligated funds; the institutional figures show expenditures.

Total expenditures

Regular institutions (table 34)

Total annual expenditures of regular educational institutions (in 1970-71 dollars) increased from $37.5 billion in 1960-61 to $77.9 billion in 1970-71 and are expected to be $105.3 billion in 1980-81. The expenditure increases are caused chiefly by increases in enrollment at all levels of education, especially in high schools and colleges, and the increasing costs of the many items such as school facilities and salaries of teachers that are necessary for providing education. The projected total expenditures are shown in table 34. They are based mainly on the assumptions that the 1960-61 to 1970-71 trend will continue through 1980-81 and that some additional amounts (above trend) will be expended because of the effects of the Elementary and Secondary Education Act of 1965.

Estimated expenditures by regular and "other" educational institutions, by source of funds: United States, 1961-62 to 1971-72[1]

Source of funds, by control and level (1)	1961-62 (2)	1963-64 (3)	1965-66 (4)	1967-68 (5)	1968-69 (6)	1969-70 (7)	1970-71 (8)	1971-72 (9)
	AMOUNT, in billions of current dollars							
All levels:								
Total, public and nonpublic	$29.8	$36.1	$45.4	$57.3	$61.9	$70.6	$78.2	$86.1
Federal	2.5	3.3	5.1	6.8	6.6	7.5	8.7	9.7
State	8.7	10.6	13.1	16.8	18.5	21.0	23.3	25.5
Local	11.2	12.7	15.0	18.6	20.3	23.4	25.2	27.6
All other	7.4	9.5	12.2	15.1	16.5	18.7	21.0	23.3
Total, public	23.4	28.0	35.3	45.5	49.6	56.9	63.1	69.6
Federal	1.7	2.2	3.7	5.1	5.0	5.8	6.8	7.6
State	8.6	10.5	13.0	16.7	18.4	20.9	23.2	25.4
Local	11.2	12.7	15.0	18.6	20.3	23.3	25.1	27.5
All other	1.9	2.6	3.6	5.1	5.9	6.9	8.0	9.1
Total, nonpublic	6.4	8.1	10.1	11.8	12.3	13.7	15.1	16.5
Federal	.8	1.1	1.4	1.7	1.6	1.7	1.9	2.1
State	.1	.1	.1	.1	.1	.1	.1	.1
Local	(2)	(2)	(2)	(2)	(2)	.1	.1	.1
All other	5.5	6.9	8.6	10.0	10.6	11.8	13.0	14.2
Elementary and secondary schools:								
Total, public and nonpublic	21.3	24.8	30.2	37.4	39.9	45.7	50.1	54.6
Federal	.9	1.1	2.2	3.0	2.9	3.3	3.9	4.3
State	6.7	8.0	9.6	12.1	13.1	14.9	16.4	17.9
Local	11.0	12.4	14.6	18.0	19.6	22.5	24.2	26.5
All other	2.7	3.3	3.8	4.3	4.3	5.0	5.6	5.9

See footnotes at end of table.

Estimated expenditures by regular and "other" educational institutions, by source of funds: United States, 1961-62 to 1971-72[1] –Continued

Source of funds, by control and level (1)	1961-62 (2)	1963-64 (3)	1965-66 (4)	1967-68 (5)	1968-69 (6)	1969-70 (7)	1970-71 (8)	1971-72 (9)
	AMOUNT, in billions of current dollars							
Total, public[3]	$18.7	$21.6	$26.5	$33.2	$35.7	$40.8	$44.6	$48.8
Federal	.9	1.1	2.2	3.0	2.9	3.3	3.9	4.3
State	6.7	8.0	9.6	12.1	13.1	14.9	16.4	17.9
Local	11.0	12.4	14.6	18.0	19.6	22.5	24.2	26.5
All other	.8	.1	.1	.1	.1	.1	.1	.1
Total, nonpublic	2.6	3.2	3.7	4.2	4.2	4.9	5.5	5.8
Federal	...	...	...	...	...	...	...	...
State	...	...	...	...	...	...	...	...
Local	...	...	...	...	...	...	...	...
All other	2.6	3.2	3.7	4.2	4.2	4.9	5.5	5.8
Institutions of higher education								
Total, public and nonpublic	8.5	11.3	15.2	19.9	22.0	24.9	28.1	31.5
Federal	1.6	2.2	2.9	3.8	3.7	4.2	4.8	5.4
State	2.0	2.6	3.5	4.7	5.4	6.1	6.9	7.6
Local	.2	.3	.4	.6	.7	.9	1.0	1.1
All other	4.7	6.2	8.4	10.8	12.2	13.7	15.4	17.4
Total, public[3]	4.7	6.4	8.8	12.3	13.9	16.1	18.5	20.8
Federal	.8	1.1	1.5	2.1	2.1	2.5	2.9	3.3
State	1.9	2.5	3.4	4.6	5.3	6.0	6.8	7.5
Local	.2	.3	.4	.6	.7	.8	.9	1.0
All other	1.8	2.5	3.5	5.0	5.8	6.8	7.9	9.0

See footnotes at end of table.

Estimated expenditures by regular and "other" educational institutions, by source of funds: United States, 1961-62 to 1971-72—Continued

Source of funds, by control and level (1)	1961-62 (2)	1963-64 (3)	1965-66 (4)	1967-68 (5)	1968-69 (6)	1969-70 (7)	1970-71 (8)	1971-72 (9)
Total, nonpublic[3]	3.8	4.9	6.4	7.6	8.1	8.8	9.6	10.7
Federal	.8	1.1	1.4	1.7	1.6	1.7	1.9	2.1
State	.1	.1	.1	.1	.1	.1	.1	.1
Local	(2)	(2)	(2)	(2)	(2)	.1	.1	.1
All other	2.9	3.7	4.9	5.8	6.4	6.9	7.5	8.4
	PERCENT							
All levels:								
Total, public and nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	8.4	9.1	11.2	11.9	10.7	10.6	11.1	11.3
State	29.2	29.4	28.9	29.3	29.9	29.8	29.8	29.6
Local	37.6	35.2	33.0	32.5	32.8	33.1	32.2	32.0
All other	24.8	26.3	26.9	26.3	26.6	26.5	26.9	27.1
Total, public	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	7.3	7.8	10.5	11.2	10.1	10.2	10.8	10.9
State	36.7	37.5	36.8	36.7	37.1	36.7	36.7	36.5
Local	47.9	45.4	42.5	40.9	40.9	41.0	39.8	39.5
All other	8.1	9.3	10.2	11.2	11.9	12.1	12.7	13.1
Total, nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	12.5	13.6	13.9	14.4	13.0	12.4	12.6	12.7
State	1.6	1.2	1.0	.9	.8	.7	.7	.6
Local	(4)	(4)	(4)	(4)	(4)	.7	.6	.6
All other	85.9	85.2	85.1	84.7	86.2	86.2	86.1	86.1

See footnotes at end of table.

Estimated expenditures by regular and "other" educational institutions, by source of funds: United States, 1961-62 to 1971-72—Continued

Source of funds, by control and level (1)	1961-62 (2)	1963-64 (3)	1965-66 (4)	1967-68 (5)	1968-69 (6)	1969-70 (7)	1970-71 (8)	1971-72 (9)
	PERCENT							
Elementary and secondary schools:								
Total, public and nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	4.2	4.4	7.3	8.0	7.3	7.2	7.8	7.9
State	31.5	32.3	31.8	32.4	32.8	32.6	32.7	32.8
Local	51.6	50.0	48.3	48.1	49.1	49.2	48.3	48.5
All other	12.7	13.3	12.6	11.5	10.8	11.0	11.2	10.8
Total, public	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	5.1	5.0	8.0	8.9	8.1	8.1	8.7	8.9
State	35.9	37.2	36.3	36.5	36.6	36.6	36.7	36.7
Local	58.6	57.4	55.2	54.3	54.9	55.1	54.4	54.2
All other	.4	.4	.5	.3	.4	.2	.2	.2
Total, nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	...	...	...	...	...	...	...	...
State	...	...	...	...	...	...	...	...
Local	...	...	...	...	...	...	...	...
All other	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

See footnotes at end of table.

Estimated expenditures by regular and "other" educational institutions, by source of funds: United States, 1961-62 to 1971-72[1]—Continued

Source of funds, by control and level (1)	1961-62 (2)	1963-64 (3)	1965-66 (4)	1967-68 (5)	1968-69 (6)	1969-70 (7)	1970-71 (8)	1971-72 (9)
				PERCENT				
Institutions of higher education:								
Total, public and nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	18.8	19.5	19.1	19.1	16.8	16.9	17.1	17.2
State	23.5	23.0	23.0	23.6	24.5	24.5	24.5	24.1
Local	2.4	2.6	2.6	3.0	3.2	3.6	3.6	3.5
All other	55.3	54.9	55.3	54.3	55.5	55.0	54.8	55.2
Total, public	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	16.0	16.9	17.6	17.1	15.3	15.4	15.6	15.7
State	41.2	39.7	38.4	37.6	38.0	37.4	36.8	36.2
Local	4.2	4.3	4.1	4.5	4.7	4.8	4.8	4.9
All other	38.6	39.1	39.9	40.8	42.0	42.4	42.8	43.2
Total, nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	20.5	23.1	22.1	22.6	19.3	19.4	19.6	19.7
State	1.5	1.3	1.5	1.2	1.4	1.4	1.4	1.3
Local	.2	.2	.1	.3	.4	.4	.5	.5
All other	77.8	75.4	76.3	75.9	78.9	78.8	78.5	78.5

[1] In addition to regular schools (shown in table 35) these figures include "other" elementary and secondary schools such as residential schools for exceptional children, Federal schools for Indians, and federally operated elementary and secondary schools on military posts. The annual expenditures of "other" elementary and secondary schools were estimated as follows: Public, $200 million annually, 1961-62 to 1971-72; nonpublic, less than $50 million for 1961-62 and $100 million annually, 1963-64 to 1971-72.

[2] Less than $50 million.

[3] Total expenditures distributed according to the trend of receipts shown in appendix B, table B-7. See text for more complete explanation.

[4] Less than 0.05 percent.

NOTE.—Data are for 50 States and the District of Columbia for all years.

SOURCES: Data for the table above were based on statistics shown in U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Statistics of State School Systems*, 1961-62, 1963-64, 1965-66, and 1967-68; (2) *Statistics of Public Schools*, fall 1964, 1965, 1966, 1967, 1968, 1969, and 1970; (3) *Financial Statistics of Higher Education*, 1961-62, 1963-64, 1965-66, 1966-67, 1967-68, and 1968-69; and unpublished data in the Office of Education.

Regular public elementary and secondary schools (tables 34, 36)

Current expenditures

Annual current expenditures for public elementary and secondary schools (in 1970-71 dollars) increased from $18.1 billion in 1960-61 to $38.0 billion in 1970-71, an increase of 110 percent. They are expected to increase 24 percent to $47.1 billion by 1980-81. These projections include the increased expenditures expected because of the Elementary and Secondary Education Act of 1965.

Increased enrollment together with increased expenditures per pupil have accounted for the increase in current expenditures. Expenditures have been increasing and are expected to continue to increase for practically all of the major items included in current expenditures, such as administration, instruction, operation and maintenance of plant, fixed charges, and other school services and programs. Annual current expenditures per pupil (in 1970-71 dollars) increased from $529 in 1960-61 to $858 in 1970-71 and are expected to increase to $1,092 by 1980-81. The last two figures include the effects of the Elementary and Secondary Education Act of 1965.

Projected current expenditures for public elementary and secondary schools are shown in table 36. They were projected as follows:

(1) Current expenditures per pupil in average daily attendance (ADA) for the base years 1960-61 to 1970-71 were converted to 1970-71 dollars on the basis of the Consumer Price Index prepared by the Bureau of Labor Statistics, U.S. Department of Labor. Monthly index numbers were averaged on a July-June basis to correspond to the school years.

(2) The current expenditures per pupil for the years 1960-61 to 1964-65 were used in deriving a formula (by least squares) for projecting trend figures for 1965-66 to 1980-81. This formula was $y' = \$509 + 21(t)$ (t = time in years, $t = 1$ in 1960-61).

(3) Average daily attendance was calculated for 1971-72 to 1980-81 by assuming that the ratio of average daily attendance to projected fall enrollment in kindergarten through grade 12 will remain constant at 0.925 through 1975-76 and 0.926 for 1976-77 through 1980-81, based on the projection of the trend of the last 11 years.

(4) Total current expenditures (excluding effects of the Elementary and Secondary Education Act of 1965) allocated to public elementary and secondary school pupil costs (1970-71 dollars) were projected for 1965-66 to 1980-81 by multiplying the current expenditures per pupil, as projected in step (2), by the corresponding average daily attendance projected in step (3). These figures exclude expenditures for summer schools, adult education, and community colleges operated by school districts.

(5) Total current expenditures (excluding effects of the Elementary and Secondary Education Act of 1965) for all programs operated by school districts—including summer schools, adult education, and community colleges—were projected for 1965-66 to 1980-81 by assuming that current expenditures for all programs remain constant at the rate of 104 percent of current expenditures allocated for public elementary and secondary school pupil costs.

(6) Current expenditures per pupil (including effects of the Elementary and Secondary Education Act of 1965) allocated to public elementary and secondary pupil costs were projected by adding $140 to the figures projected in step (2). (The projected current expenditures per pupil for 1972-73 were $140 higher than the trend figure derived in step (2).)

(7) Total current expenditures allocated to pupil costs (including the effects of the Elementary and Secondary Education Act of 1965) were projected by multiplying the current expenditures per pupil, as projected in step (6), by the corresponding average daily attendance projected in step (3).

(8) Total current expenditures for all programs operated by school districts (including the effects of the Elementary and Secondary Education Act) were projected by multiplying the figures in step (7) by 104 percent.

Salaries of instructional staff (tables 37, 30)

A large part of current expenditures for public elementary and secondary schools is for salaries of instructional staff (amounting to 61 percent in 1967-68). Total expenditures for these salaries (in 1970-71 dollars) doubled from $11.1 billion in 1960-61 to $22.2 billion in 1970-71, and are expected to be $29.2 billion in 1980-81, a 32-percent increase over 1970-71. These increases are due to larger numbers of instructional staff and to higher average annual salaries. The amounts for 1965-66 to 1980-81 also reflect the larger number of instructional staff expected on account of the Elementary and Secondary Education act of 1965.

The average annual salary of instructional staff (in 1970-71 dollars) increased from $7,259 in 1960-61 to $9,570 in 1970-71 and is expected to be $11,901 in 1980-81. During the past 10 years, the average annual salary has been increasing about $228 per year in 1970-71 dollars. The projected figure for 1980-81 ($11,901) is based on the assumption that the 1960-61 to 1970-71 trend will continue to 1980-81.

Projected total and average annual salaries of instructional staff in public elementary and secondary schools are shown in table 37. The procedure was as follows:

The average annual salary (y) was projected as a continuation of the 1960-61 to 1970-71 trend: $y' = \$7,006 + 233(t)$; ($t$ = time in years, $t = 1$ in 1960-61).

Total expenditures for salaries of instructional staff were then computed as the product of the average annual salary and the total number of instructional staff. (The total number of instructional staff was taken from table 30.)

Classroom construction and capital outlay (table 38)

Capital outlay (in 1970-71 dollars) by regular public elementary and secondary schools, including the expenditures of State and local school building authorities, was $24.4 billion for the 5-year period 1961-62 to 1965-66, and $26.8 billion for the following 5-year period, 1966-67 to 1970-71. It is expected to be $26.0 billion for 1971-72 to 1975-76 and $26.0 billion for 1976-77 to 1980-81.

Projected expenditures for capital outlay together with projections of classroom construction are shown in table 38. They are not projections of need but are simply projections of the classroom construction and capital outlay expected in the light of the 1960-61 to 1970-71 trend and other factors. The procedure was as follows:

(1) The total number of rooms to be completed was projected on the basis of the 1961-62 to 1969-70 trend; $y' = 59,575 + 469(t)$; (t = time in years, $t = 1$ in 1960-61). The basic data and projections are shown in table 38. Although the short-range trend is toward a steadily increasing number of rooms to be completed, there seems to be a ceiling of about 65,000 rooms per year.

(2) Capital outlay was projected by multiplying the number of rooms to be completed by the projected capital outlay per room which was held constant at the level of $80,000 per room (1970-71 dollars). There seems also to be a ceiling on the amount of money available for capital outlay expenditures, and it was held constant at $5.2 billion per year.

The basic data and projections are shown in table 38.

It should be noted that not all the capital outlay shown here represents construction. It was estimated that, in 1961-62, 2 percent of capital outlay was for transportation equipment, 15 percent for other equipment, and 83 percent for land and buildings.

We may expect a sharp decrease in the number of rooms to be completed on account of enrollment increases and a sharp increase in the number completed for other reasons. Other reasons include: (1) replacements (abandonments), (2) migration factors (including school district reorganization), and (3) reduction of crowded and unsatisfactory rooms. Data limitations do not permit an exact analysis of these three factors. Since there are some indications that the number of crowded and unsatisfactory rooms did not change substantially during the period of time between the studies of 1962 and 1964-65 (see table below), it seems safe to assume that almost all of the rooms built during that time were used to take care of migration factors. That the number of crowded and unsatisfactory rooms was not reduced during the 3-year period is indicated in Office of Education studies on school facilities for 1962 and 1964-65.[1] The following information was selected from these two studies:

Item	1962	1964-65
Number of additional public school classrooms needed:		
To eliminate offsite	6,000	14,000
To eliminate nonpermanent	31,000	31,000
To eliminate improvised or makeshift	28,000	31,000
To eliminate rooms in buildings with four or more defects	NA	158,000
To achieve a pupil-room ratio for all students of:		
27.6 elementary and 26.3 secondary pupils	117,000	------
27.4 elementary and 27.5 secondary pupils	------	98,000
25 elementary and 20 secondary pupils	272,000	285,000
U.S. median pupil-room ratio:		
Elementary schools	27.6	27.4
Secondary schools	26.3	27.5

NA - Not available.

In 1964-65 the number of additional rooms which would have eliminated the use of offsite, nonpermanent, and improvised or makeshift rooms was 76,000 and the number for replacing rooms in buildings with four or more defects was 158,000. Another 98,000 rooms would have been needed to permit all public school pupils to be in rooms with an average of 27 pupils. If they were to be accommodated in rooms with no more than 25 elementary or 20 secondary pupils, the additional number needed would have been 285,000.

Interest expenditures (table 39)

Annual expenditures (in 1970-71 dollars) for interest by public elementary and secondary schools increased from $719 million in 1960-61 to over 1.3 billion in 1970-71 and are expected to be $1.9 billion in 1980-81. Projected interest is shown in table 39. The projections are based on the assumption that the 1960-61 to 1970-71 upward trend will continue through 1980-81. Although capital outlay is expected to level off in the next decade, this assumption seems reasonable because interest payments continue 20 years or more after construction, resulting in debt being incurred at a greater rate than it is being eliminated. The trend formula for projecting interest (y) in 1970-71 dollars was as follows: $y' = \$717 + \$56(t)$; ($t$ = time in years, $t = 1$ in 1960-61).

Nonpublic elementary and secondary schools (tables 34 and 35)

Expenditure data for nonprofit elementary and secondary schools comparable to those for public schools are nonexistent. The main reason is that it is extremely difficult to arrive at a universally accepted method for determining the value of donated services for nonpublic schools, even if data on actual expenditures were collected. These donated services make up a substantial part of nonpublic school resources, especially in the elementary and secondary schools operated by religious orders. In 1965-66, over three-fourths of the nearly 200,000 nonpublic school teachers belonged to religious orders of the Roman Catholic Church. Also, it might be argued that many of the remaining nonpublic school teachers, whose salaries generally run lower than those in public schools, really donated part of their services.

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[1] U.S. Department of Health, Education, and Welfare, Office of Education, ***National Inventory of School Facilities and Personnel, Spring 1962,*** by George J. Collins, and ***Condition of Public School Plants, 1964-65,*** by George J. Collins and William L. Stormer.

Although it is difficult to arrive at national estimates of nonpublic school expenditures that everyone will accept, the substantial contribution of nonpublic elementary and secondary schools cannot be ignored when total expenditures for education are being considered. Therefore, illustrative estimates of nonpublic elementary and secondary school expenditures were developed rather arbitrarily and are shown in table 34. They are based on the assumption that the cost per teacher (including donated facilities and services) in nonpublic schools is the same as in the public schools. The formula was as follows: $y = xp$ (x = ratio of nonpublic to public school teachers, and p = public school expenditures). The ratio of nonpublic to public school teachers was around 14 percent during the 1960 to 1970 decade and is expected to be around 11 percent during the 1970 to 1980 decade. The numbers upon which these ratios were computed are shown in table 26.

Some previous Office of Education estimates were based on the assumption that per pupil costs in nonpublic were the same as in public schools. Since the average pupil-teacher ratio is higher in nonpublic than in public schools the previous estimates were higher than those shown here. Both types of estimates are, in a sense, hypothetical. That is, one showed what it would cost to educate nonpublic elementary and secondary school children if they were enrolled in public schools and if the public school pupil-teacher ratio were maintained; and the other type, shown in tables 34 and 35, shows the cost if the pupil-teacher ratio were maintained at the nonpublic school level.

Institutions of Higher Education

Current expenditures (tables 34, 40)

Annual current expenditures of institutions of higher education (in 1970-71 dollars) increased from \$8.0 billion in 1960-61 to \$23.5 billion in 1970-71. They are expected to reach \$43.5 billion by 1980-81. The projected data are based largely upon expected increases in enrollment and upon the trend of increasing costs per student expressed in constant dollars. The result is an expected or projected constant dollar increase of \$20.0 billion over the next 10 years compared to a constant dollar increase of \$15.5 billion over the past 10 years (see table 34). When expressed in terms of current expenditures per full-time-equivalent student, the data in constant 1970-71 dollars are as follows:

Item	1960-61	1970-71	1980-81
Total current expenditures	\$2,699	\$3,497	\$4,323
Publicly controlled institutions	2,493	3,009	3,693
Nonpublicly controlled institutions	3,003	4,847	6,974

Current expenditures are divided into six functional components: student education, related activities, organized research, auxiliary enterprises, student aid, and major public services. "Student education" encompasses general administration, instruction and departmental research, extension and public service (excluding major public service), libraries, and operation and maintenance. Expenditures for student education were projected by use of the trend of annual expenditures per full-time-equivalent student over the 10-year base period in conjunction with the projected enrollment of such students (see table 34). When expressed in terms of current expenditures per full-time-equivalent student, the data in constant 1970-71 dollars are as follows:

Item	1960-61	1970-71	1980-81
Total current expenditures for student education	$1,586	$2,208	$2,699
Publicly controlled institutions	1,538	2,035	2,486
Nonpublicly controlled institutions	1,656	2,687	3,593

Current expenditures for "student education," related activities, and organized research are commonly known as current expenditure for educational and general purposes, and these expenditures per full-time-equivalent student in constant 1970-71 dollars are as follows:

Item	1960-61	1970-71	1980-81
Total current expenditures for educational and general purposes	$2,301	$2,704	$3,271
Publicly controlled institutions	2,165	2,436	2,904
Nonpublicly controlled institutions	2,500	3,447	4,810

Current expenditures for "major public services" were considered an educational and general expenditure until 1968-69. The projection of "major public services" as a separate major component beginning with 1968-69 is segmented. The portion applicable to federally funded research and development centers, formerly a component of organized research, is projected without regard to enrollment or to relationship with any other item. The remainder of major public services expenditures is projected on the basis of its relationship to related activities in 1968-69. In order to permit comparison of educational and general expenditures for 1960-61 and for the succeeding 10-year intervals, the expenditures for major public services per full-time-equivalent student in constant 1970-71 dollars are as follows:

Item	1970-71	1980-81
Total current expenditures for major public services	$246	$276
Publicly controlled institutions	183	203
Nonpublicly controlled institutions	420	584

The institutions of higher education engage in organized research and related activities and auxiliary enterprises in widely varying degrees. The "student education" component expressed as expenditure per full-time-equivalent student can be considered a norm for all institutions. Per student data for the United States for total current expenditures and for educational and general expenditures are presented as general interest items and not as institutional norms.

Auxiliary enterprises and student aid expenditures were projected on the basis of their percentage relationship to student education during the base period. These functions are obviously closely related to trends in enrollment, but allowance had to be made for the change during the base period in their percentage relationship to student education. The base period data indicate a trend toward less emphasis on auxiliary enterprises and more emphasis on student aid.

Item	1960-61 (percent of student education)	1970-71 (percent of student education)	1980-81 (percent of student education)
Auxiliary enterprises:			
Publicly controlled institutions	26.93	19.36	17.02
Nonpublicly controlled institutions	32.25	27.90	28.55
Student aid:			
Publicly controlled institutions	3.32	5.47	8.14
Nonpublicly controlled institutions	8.87	12.23	15.78

The trend of expenditures for related activities should be considered in tandem with a portion of expenditures for "major public service" beginning in 1968-69.

Item	1960-61 (percent of student education)	1970-71 (percent of student education)	1980-81 (percent of student education)
Related activities:			
Publicly controlled institutions	10.01	4.53	4.58
Nonpublicly controlled institutions	8.89	5.25	5.53
Major public services:			
Publicly controlled institutions		5.46	5.54
Nonpublicly controlled institutions		5.02	5.29

The projections of expenditures for organized research and for the federally funded research and development centers portion of "major public services" were done without regard to enrollment or to relationship with any other item. The trend of the two segments should be viewed as combined in 1960-61 and separately for the two succeeding decades.

Item	1960-61 (billions of constant 1970-71 dollars)	1970-71 (billions of constant 1970-71 dollars)	1980-81 (billions of constant 1970-71 dollars)
Organized research	$1.6	$2.6	$4.4
Publicly controlled	.8	1.5	2.5
Nonpublicly controlled	.8	1.1	1.9
Major public services, federally funded research and development centers only		.9	1.3
Publicly controlled		.4	.5
Nonpublicly controlled		.5	.8

Capital outlay (tables 34, 42)

Annual capital outlay of institutions of higher education (in 1970-71 dollars) increased from $2.8 billion during 1960-61 to an estimated $4.6 billion in 1970-71 and is expected to fall back to $2.1 billion during 1980-81. Capital outlay over the entire 10-year base period of 1960-61 to 1970-71 amounted to an estimated total of $43.9 billion (in 1970-71 dollars) and is expected to reach a total of $36.0 billion (in 1970-71 dollars) over the 10-year projected period of 1971-72 to 1980-81. The decline in annual projected capital outlay, from $4.4 billion in 1971-72 to $2.1 billion in 1980-81, can be attributed to declining numbers of additional students projected for these years.

The historical data showed clearly that capital outlay could not be related to increased enrollment on an annual basis. However, an annual figure could reasonably be estimated by utilizing a moving average of enrollment increases provided that declining numbers of additional students be given only 50 percent weight and that minus additional students were given zero weight. The annual increases thus obtained were still considerably less reliable than aggregated 5-year figures. We would emphasize, then, that the annual capital outlay shown in tables 34 and 42 should be regarded as interpolations and that the 1970-71 dollar aspect of the projections should be kept in mind.

Expenditures for interest (tables 34, 40)

Data on expenditures for interest by institutions of higher education are incomplete and cannot be shown as a separate item. The major portion of expenditures for interest is estimated to be included with the current expenditures shown in tables 34 and 40.

Table 34.—Expenditures (1970-71 dollars) of regular educational institutions, by instructional level and institutional control: United States, 1960-61 to 1980-81

(In billions of 1970-71 dollars)

Year and control	Total (all levels)	Elementary and secondary schools[1] (nonpublic school expenditures are estimated on the basis of expenditures per teacher in public schools)				Institutions of higher education[2]		
		Total	Current expenditures[3]	Capital outlay[4]	Interest[5]	Total	Current expenditures[6]	Capital outlay[7]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1960-61:								
Total	$37.5	$26.7	$20.6	$5.3	$.8	$10.8	$8.0	$2.8
Public	29.4	23.5	18.1	4.7	.7	5.9	4.4	1.5
Nonpublic .	8.1	3.2	2.5	.6	.1	4.9	3.6	1.3
1961-62:								
Total	40.7	28.9	22.5	5.5	.9	11.8	9.1	2.7
Public	31.9	25.3	19.7	4.8	.8	6.6	5.0	1.6
Nonpublic .	8.8	3.6	2.8	.7	.1	5.2	4.1	1.1
1962-63:								
Total	43.8	29.9	24.2	4.8	.9	13.9	10.0	3.9
Public	34.0	26.1	21.1	4.2	.8	7.9	5.4	2.5
Nonpublic .	9.8	3.8	3.1	.6	.1	6.0	4.6	1.4
1963-64:								
Total	47.4	32.4	26.0	5.4	1.0	15.0	11.3	3.7
Public	36.8	28.3	22.7	4.7	.9	8.5	6.2	2.3
Nonpublic .	10.6	4.1	3.3	.7	.1	6.5	5.1	1.4
1964-65:								
Total	51.5	34.4	27.1	6.2	1.1	17.1	12.9	4.2
Public	39.7	30.1	23.7	5.4	1.0	9.6	7.2	2.4
Nonpublic .	11.8	4.3	3.4	.8	.1	7.5	5.7	1.8
1965-66:[8]								
Total	57.3	37.9	30.8	6.0	1.1	19.4	14.8	4.6
Public	44.5	33.3	27.0	5.3	1.0	11.2	8.3	2.9
Nonpublic .	12.8	4.6	3.8	.7	.1	8.2	6.5	1.7
1966-67:[8]								
Total	60.9	39.3	32.0	6.1	1.2	21.6	16.3	5.3
Public	47.6	34.7	28.2	5.4	1.1	12.9	9.4	3.5
Nonpublic .	13.3	4.6	3.8	.7	.1	8.7	6.9	1.8
1967-68:[8]								
Total	67.4	43.7	36.4	6.1	1.2	23.7	18.4	5.3
Public	53.6	38.9	32.4	5.4	1.1	14.7	11.2	3.5
Nonpublic .	13.8	4.8	4.0	.7	.1	9.0	7.2	1.8
1968-69:[8]								
Total	69.3	44.4	37.1	6.1	1.2	24.9	20.0	4.9
Public	55.5	39.8	33.2	5.5	1.1	15.7	12.3	3.4
Nonpublic .	13.8	4.6	3.9	.6	.1	9.2	7.7	1.5
1969-70:[8]								
Total	74.2	47.9	40.6	6.0	1.3	26.3	21.6	4.7
Public	59.9	42.9	36.3	5.4	1.2	17.0	13.5	3.5
Nonpublic .	14.3	5.0	4.3	.6	.1	9.3	8.1	1.2

See footnotes at end of table.

Table 34.—Expenditures (1970-71 dollars) of regular educational institutions, by instructional level and institutional control: United States, 1960-61 to 1980-81—Continued

(In billions of 1970-71 dollars)

Year and control	Total (all levels)	Elementary and secondary schools[1] (nonpublic school expenditures are estimated on the basis of expenditures per teacher in public schools)				Institutions of higher education[2]		
		Total	Current expenditures[3]	Capital outlay[4]	Interest[5]	Total	Current expenditures[6]	Capital outlay[7]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1970-71:[8]								
Total	$77.9	$49.8	$42.6	$5.7	$1.5	$28.1	$23.5	$4.6
Public	62.9	44.4	38.0	5.1	1.3	18.5	14.9	3.6
Nonpublic	15.0	5.4	4.6	.6	.2	9.6	8.6	1.0
				PROJECTED				
1971-72:								
Total	82.2	52.0	44.6	5.8	1.6	30.2	25.7	4.5
Public	66.5	46.5	39.9	5.2	1.4	20.0	16.5	3.5
Nonpublic	15.7	5.5	4.7	.6	.2	10.2	9.2	1.0
1972-73:								
Total	84.9	52.7	45.3	5.8	1.6	32.2	27.8	4.4
Public	68.6	47.2	40.6	5.2	1.4	21.4	18.0	3.4
Nonpublic	16.3	5.5	4.7	.6	.2	10.8	9.8	1.0
1973-74:								
Total	87.6	53.4	45.9	5.8	1.7	34.2	29.8	4.4
Public	70.8	47.9	41.2	5.2	1.5	22.9	19.5	3.4
Nonpublic	16.8	5.5	4.7	.6	.2	11.3	10.3	1.0
1974-75:								
Total	90.2	54.0	46.4	5.8	1.8	36.2	32.0	4.2
Public	73.0	48.5	41.7	5.2	1.6	24.5	21.1	3.4
Nonpublic	17.2	5.5	4.7	.6	.2	11.7	10.9	.8
1975-76:								
Total	92.8	54.6	47.0	5.8	1.8	38.2	34.2	4.0
Public	75.1	49.1	42.3	5.2	1.6	26.0	22.7	3.3
Nonpublic	17.7	5.5	4.7	.6	.2	12.2	11.5	.7
1976-77:								
Total	95.5	55.3	47.6	5.8	1.9	40.2	36.4	3.8
Public	77.5	49.9	43.0	5.2	1.7	27.6	24.4	3.2
Nonpublic	18.0	5.4	4.6	.6	.2	12.6	12.0	.6
1977-78:								
Total	98.1	56.3	48.6	5.8	1.9	41.8	38.4	3.4
Public	79.8	50.8	43.9	5.2	1.7	29.0	26.0	3.0
Nonpublic	18.3	5.5	4.7	.6	.2	12.8	12.4	.4
1978-79:								
Total	100.4	57.2	49.5	5.7	2.0	43.2	40.3	2.9
Public	81.9	51.8	44.8	5.2	1.8	30.1	27.5	2.6
Nonpublic	18.5	5.4	4.7	.5	.2	13.1	12.8	.3
1979-80:								
Total	102.8	58.3	50.6	5.7	2.0	44.5	42.0	2.5
Public	84.0	52.9	45.9	5.2	1.8	31.1	28.8	2.3
Nonpublic	18.8	5.4	4.7	.5	.2	13.4	13.2	.2
1980-81:								
Total	105.3	59.7	51.9	5.7	2.1	45.6	43.5	2.1
Public	86.2	54.2	47.1	5.2	1.9	32.0	30.0	2.0
Nonpublic	19.1	5.5	4.8	.5	.2	13.6	13.5	.1

See footnotes on following page.

[1] Excludes expenditures for residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, and federally operated schools on Federal installations. See text table on expenditures by source of funds for data on these schools. All nonpublic elementary and secondary school expenditures shown here are estimated on the basis of expenditures per teacher in public elementary and secondary schools.

[2] Includes expenditures for subcollegiate departments of institutions of higher education, estimated at $90 million in 1970-71. Includes expenditures for interest from current funds and excludes interest paid from plant funds. (An estimated $275 million was expended for total interest in 1970-71.)

[3] Includes current expenditures of public elementary and secondary school systems for community services, summer schools, community colleges, and adult education. Interest is included in the estimated current expenditures of nonpublic schools.

[4] Includes capital outlay of State and local school building authorities.

[5] Interest for nonpublic schools is based on interest for public schools.

[6] Includes expenditures for interest from current funds. Excludes expenditures from current funds for capital outlay.

[7] The estimated annual capital outlay data shown here include estimated expenditures for replacement and rehabilitation.

[8] Includes effect of Elementary and Secondary Education Act of 1965.

NOTE.—Data are for 50 States and the District of Columbia.

SOURCES: Data are a summary of tables 36 through 42, each of which indicates sources of data.

Table 35.—Expenditures (current dollars) of regular educational institutions, by instructional level and institutional control: United States, 1960-61 to 1972-73

(In billions of current dollars)

Year and control	Total (all levels)	Elementary and secondary schools[1] (nonpublic school expenditures are estimated on the basis of expenditures per teacher in public schools)				Institutions of higher education[2]		
		Total	Current expenditures[3]	Capital outlay[4]	Interest[5]	Total	Current expenditures[6]	Capital outlay[7]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1960-61:								
Total	$27.1	$19.4	$15.5	$3.3	$0.6	$7.7	$6.0	$1.7
Public	21.2	17.0	13.6	2.9	.5	4.2	3.3	.9
Nonpublic	5.9	2.4	1.9	.4	.1	3.5	2.7	.8
1961-62:								
Total	29.6	21.1	17.0	3.4	.7	8.5	6.8	1.7
Public	23.2	18.5	14.9	3.0	.6	4.7	3.7	1.0
Nonpublic	6.4	2.6	2.1	.4	.1	3.8	3.1	.7
1962-63:								
Total	32.5	22.3	18.5	3.1	.7	10.2	7.7	2.5
Public	25.3	19.5	16.2	2.7	.6	5.8	4.2	1.6
Nonpublic	7.2	2.8	2.3	.4	.1	4.4	3.5	.9
1963-64:								
Total	35.8	24.5	20.1	3.6	.8	11.3	8.8	2.5
Public	27.8	21.4	17.6	3.1	.7	6.4	4.9	1.5
Nonpublic	8.0	3.1	2.5	.5	.1	4.9	3.9	1.0
1964-65:[8]								
Total	39.8	26.9	21.8	4.2	.9	12.9	10.1	2.8
Public	30.8	23.6	19.1	3.7	.8	7.2	5.6	1.6
Nonpublic	9.0	3.3	2.7	.5	.1	5.7	4.5	1.2
1965-66:[8]								
Total	45.1	29.9	24.7	4.3	.9	15.2	11.9	3.3
Public	35.1	26.3	21.7	3.8	.8	8.8	6.7	2.1
Nonpublic	10.0	3.6	3.0	.5	.1	6.4	5.2	1.2
1966-67:[8]								
Total	49.5	32.0	26.5	4.5	1.0	17.5	13.6	3.9
Public	38.7	28.3	23.4	4.0	.9	10.4	7.9	2.5
Nonpublic	10.8	3.7	3.1	.5	.1	7.1	5.7	1.4
1967-68:[8]								
Total	57.0	37.1	31.2	4.8	1.1	19.9	15.8	4.1
Public	45.3	33.0	27.7	4.3	1.0	12.3	9.6	2.7
Nonpublic	11.7	4.1	3.5	.5	.1	7.6	6.2	1.4
1968-69:[8]								
Total	61.6	39.6	33.3	5.2	1.1	22.0	17.9	4.1
Public	49.4	35.5	29.8	4.7	1.0	13.9	11.0	2.9
Nonpublic	12.2	4.1	3.5	.5	.1	8.1	6.9	1.2

See footnotes at end of table.

Table 35.—Expenditures (current dollars) of regular educational institutions, by instructional level and institutional control: United States, 1960-61 to 1972-73—Continued

(In billions of current dollars)

Year and control	Total (all levels)	Elementary and secondary schools[1] (nonpublic school expenditures are estimated on the basis of expenditures per teacher in public schools)				Institutions of higher education[2]		
		Total	Current expenditures[3]	Capital outlay[4]	Interest[5]	Total	Current expenditures[6]	Capital outlay[7]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1969-70:[8]								
Total	$70.3	$45.4	$38.6	$5.5	$1.3	$24.9	$20.6	$4.3
Public	56.7	40.6	34.5	4.9	1.2	16.1	12.9	3.2
Nonpublic...	13.6	4.8	4.1	.6	.1	8.8	7.7	1.1
1970-71:[8]								
Total	77.9	49.8	42.6	5.7	1.5	28.1	23.5	4.6
Public	62.9	44.4	38.0	5.1	1.3	18.5	14.9	3.6
Nonpublic ..	15.0	5.4	4.6	.6	.2	9.6	8.6	1.0
	PROJECTED							
1971-72:[8]								
Total	85.8	54.3	46.5	6.1	1.7	31.5	26.8	4.7
Public......	69.4	48.6	41.6	5.5	1.5	20.8	17.1	3.7
Nonpublic ..	16.4	5.7	4.9	.6	.2	10.7	9.7	1.0
1972-73:[8]								
Total	92.6	57.5	49.1	6.6	1.8	35.1	30.2	4.9
Public......	74.8	51.5	44.0	5.9	1.6	23.3	19.5	3.8
Nonpublic ..	17.8	6.0	5.1	.7	.2	11.8	10.7	1.1

[1] Excludes expenditures for residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, and federally operated schools on Federal installations. See text table on expenditures by source of funds for data on these schools. All nonpublic elementary and secondary school expenditures shown here are estimated on the basis of expenditures per teacher in public elementary and secondary schools.

[2] Includes expenditures for subcollegiate departments of institutions of higher education, estimated at $90 million in 1970-71. Includes expenditures for interest from current funds and excludes interest paid from plant funds. (An estimated $275 million was expended for total interest in 1970-71.)

[3] Includes current expenditures of public elementary and secondary school systems for community services, summer schools, community colleges, and adult education. Interest is included in the estimated current expenditures of nonpublic schools.

[4] Includes capital outlay of State and local school building authorities.

[5] Interest for nonpublic schools is based on interest for public schools.

[6] Includes expenditures for interest from current funds. Excludes expenditures from current funds for capital outlay.

[7] The estimated annual capital outlay data shown here include estimated expenditures for replacement and rehabilitation.

[8] Includes effect of Elementary and Secondary Education Act of 1965.

NOTE.—Data are for 50 States and the District of Columbia.

SOURCES: Data are a summary of tables 36 through 42, each of which indicates sources of data.

Table 36.—Current expenditures of public school systems: United States, 1960-61 to 1980-81

Year	Average daily attendance (in thousands)	Allocated to pupil costs[1]				All programs[2]	
		Per pupil in average daily attendance		Total (in billions)		Total (in billions)	
		Current dollars	1970-71 dollars	Current dollars	1970-71 dollars	Current dollars	1970-71 dollars
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960-61 [3]	33,524	$396.50	$529	$13.3	$17.7	$13.6	$18.1
1961-62	34,682	418.50	553	14.7	19.2	14.9	19.7
1962-63[3]	35,882	439.00	573	15.8	20.6	16.2	21.1
1963-64	37,405	460.24	592	17.2	22.1	17.6	22.7
1964-65[4]	38,600	484.00	615	18.6	23.7	19.1	23.7
1965-66	39,154	537.35	668	21.1	26.2	21.7	27.0
1966-67[4]	40,000	569.00	686	22.6	27.6	23.4	28.2
1967-68	40,828	658.30	769	26.9	31.4	27.7	32.4
1968-69[4]	41,157	696.00	775	28.6	32.3	29.8	33.2
1969-70[4]	42,283	783.00	823	33.1	34.8	34.5	36.3
1970-71[4]	42,486	858.00	858	36.5	36.5	38.0	38.0
A. INCLUDES THE EFFECT OF THE ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965							
	ACTUAL						
1965-66	39,154	$537.35	$668	$21.1	$26.2	$21.7	$27.0
1966-67[4]	40,000	569.00	686	22.6	27.6	23.4	28.2
1967-68	40,828	658.30	769	26.9	31.4	27.7	32.4
1968-69[4]	41,157	696.00	775	28.6	32.3	29.8	33.2
1969-70[4]	42,283	783.00	823	33.1	34.8	34.5	36.3
1970-71[4]	42,486	858.00	858	36.5	36.5	38.0	38.0
	PROJECTED[5] **(Based on assumption that current expenditure per pupil will be $140 higher than trend)**						
1971-72	42,500	[6] $941.00	$903	[6] $40.0	$38.4	[6] $41.6	$39.9
1972-73	42,200	[6] 1,003.00	924	[6] 42.3	39.0	[6] 44.0	40.6
1973-74	41,900	. . . . .	945	. . . .	39.6	. . . .	41.2
1974-75	41,500	. . . . .	966	. . . .	40.1	. . . .	41.7
1975-76	41,200	. . . . .	987	. . . .	40.7	. . . .	42.3
1976-77	41,000	. . . . .	1,008	. . . .	41.3	. . . .	43.0
1977-78	41,000	. . . . .	1,029	. . . .	42.2	. . . .	43.9
1978-79	41,000	. . . . .	1,050	. . . .	43.1	. . . .	44.8
1979-80	41,200	. . . . .	1,071	. . . .	44.1	. . . .	45.9
1980-81	41,500	. . . . .	1,092	. . . .	45.3	. . . .	47.1
B. EXCLUDES THE EFFECT OF THE ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965							
	ESTIMATED[7]						
1965-66	39,154	$511	$636	$20.0	$24.9	$20.7	$25.9
1966-67	40,000	545	657	21.8	26.3	22.6	27.3
1967-68	40,828	581	678	23.8	27.7	24.6	28.8
1968-69	41,157	628	699	25.9	28.8	26.8	29.9
1969-70	42,283	685	720	29.0	30.4	30.1	31.7
1970-71	42,486	741	741	31.5	31.5	32.7	32.7

See footnotes at end of table.

Table 36.—Current expenditures of public school systems: United States, 1960-61 to 1980-81—Continued

Year	Average daily attendance (in thousands)	Allocated to pupil costs[1]				All programs[2]	
		Per pupil in average daily attendance		Total (in billions)		Total (in billions)	
		Current dollars	1970-71 dollars	Current dollars	1970-71 dollars	Current dollars	1970-71 dollars
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PROJECTED[8]							
(Based on continuation of 1960-61 to 1964-65 trend in current expenditure per pupil)							
1971-72	42,500	[6] $796	$763	[6] $33.8	$32.4	[6] $35.2	$33.7
1972-73	42,200	[6] 851	784	[6] 35.9	33.1	[6] 37.3	34.4
1973-74	41,900	....	805	....	33.7	....	35.1
1974-75	41,500	....	826	....	34.3	....	35.7
1975-76	41,200	....	847	....	34.9	....	36.3
1976-77	41,000	....	868	....	35.6	....	37.0
1977-78	41,000	....	889	....	36.4	....	37.9
1978-79	41,000	....	910	....	37.3	....	38.8
1979-80	41,200	....	931	....	38.4	....	39.9
1980-81	41,500	....	952	....	39.5	....	41.1

[1] Includes only the current expenditures for public day schools allocated to pupil costs, and excludes the other expenditures shown in footnote 2.

[2] Includes current expenditures for summer schools, adult education, and community colleges operated by school districts, in addition to expenditures allocable to pupil costs.

[3] Estimated on the basis of actual enrollment and interpolated expenditures per pupil.

[4] Derived from estimates furnished by States.

[5] The projections of current expenditures of public school systems including the effect of the Elementary and Secondary Education Act of 1965 are based on the assumptions that: (1) The ratio of average daily attendance to enrollment in grades K-12 of public schools (table 3) will remain constant at the level of 0.925 through 1975-76 and at 0.926 through 1980-81; (2) current expenditures allocated to costs per pupil in average daily attendance will follow the 1960-61 to 1964-65 trend; (3) the ratio of current expenditures for all programs to current expenditures allocated to pupil costs will remain constant at the level of 1.04; and (4) an increase in expenditures of $140 per pupil will be added to the trend expenditures outlined above as a result of the Elementary and Secondary Education Act of 1965.

[6] Based on the assumption that the Consumer Price Index will follow the 1966-67 to 1970-71 trend through 1972-73.

[7] Estimated, using the 1960-61 to 1964-65 trend.

[8] The projections of current expenditures of public school systems excluding the effect of the Elementary and Secondary Education Act of 1965 are based on the [illegible]st three assumptions outlined in footnote 5 above.

For methodological details, see appendix A, table A-4, and discussion in text.

NOTE.—Data are for 50 States and the District of Columbia for all years.

SOURCES: Data are based on statistics shown in U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Statistics of State School Systems,* 1959-60 through 1967-68; and (2) *Statistics of Public Schools,* fall 1960 through 1970.

Current expenditures were converted to 1970-71 dollars on the basis of the Consumer Price Index prepared by the Bureau of Labor Statistics, U.S. Department of Labor. For method of converting, see appendix B, table B-6.

Table 37.–Current expenditures for salaries of instructional staff in regular public elementary and secondary schools: United States, 1960-61 to 1980-81

Year	Number of instructional staff[1] (in thousands)	Salaries of instructional staff[2]			
		Average annual salary		Total (in billions)	
		Current dollars	1970-71 dollars	Current dollars	1970-71 dollars
(1)	(2)	(3)	(4)	(5)	(6)
1960-61[3]	1,525	$5,440	$7,259	$8.3	$11.1
1961-62	1,588	5,789	7,646	9.2	12.1
1962-63[3]	1,641	5,930	7,741	9.7	12.7
1963-64	1,717	6,277	8,078	10.8	13.9
1964-65[4]	1,813	6,400	8,133	11.6	14.7
1965-66	1,885	6,935	8,626	13.1	16.3
1966-67[4]	1,984	7,110	8,578	14.1	17.0
1967-68	2,071	7,905	9,229	16.4	19.1
1968-69	2,166	8,200	9,133	17.8	19.8
1969-70[4]	2,259	8,840	9,296	20.0	21.0
1970-71[4]	2,319	9,570	9,570	22.2	22.2
	PROJECTED[5]				
1971-72	2,344	[6] 10,225	9,803	24.0	23.0
1972-73	2,358	[6] 10,900	10,036	25.7	23.7
1973-74	2,367	......	10,269	....	24.3
1974-75	2,372	......	10,502	....	24.9
1975-76	2,370	......	10,735	....	25.4
1976-77	2,381	......	10,968	....	26.1
1977-78	2,390	......	11,201	....	26.8
1[illegible]	2,403	......	11,434	....	27.5
1979-80	2,425	......	11,667	....	28.3
1980-81	2,454	......	11,901	....	29.2

[1] Data on number of instructional staff were taken from table 30.

[2] The average annual salaries of instructional staff are about 4 percent higher than the salaries of classroom teachers.

[3] Estimated on the basis of the actual number of instructional staff and interpolated expenditures per staff member for salaries.

[4] Estimates of salaries furnished by State education departments.

[5] The projections of current expenditures for salaries of instructional staff in public elementary and secondary schools are based on the following assumptions: (1) Average annual salaries will follow the 1960-61 to 1970-71 trend; (2) the ratio of instructional staff to classroom teachers in regular public schools will follow the 1960-61 through 1970-71 trend; and (3) funds provided by the Elementary and Secondary Education Act of 1965 will increase the number of instructional staff over the number expected on the basis of trend alone by approximately 180,000 each year (see tables 26 and 30).

[6] Based on the assumption that the Consumer Price Index will follow the 1966-67 to 1970-71 trend through 1972-73.

NOTE.–Data are for 50 States and the District of Columbia for all years.

SOURCES: Data are based on statistics shown in U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Statistics of State School Systems,* 1959-60 through 1967-68; and (2) *Statistics of Public Schools,* fall 1964 through 1970.

Conversion to 1970-71 dollars was based on the Consumer Price Index prepared by the Bureau of Labor Statistics, U.S. Department of Labor. For method of converting, see appendix B, table B-6.

Table 38.—Construction of public elementary and secondary school classrooms and capital outlay: United States, 1960-61 to 1980-81

[Capital outlay includes expenditures of public school building authorities]

Year	Rooms completed	Fiscal year bond sales in millions of current dollars	School year capital outlay[1]				
			Current dollars			1970-71 dollars	
			Percent of bond sales	Total in millions	Per room	Total in millions	Per room
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960-61[2]	72,157	$2,357	123	$2,900	$40,200	$4,700	$65,100
1961-62	71,987	2,568	116	2,987	41,500	4,800	66,700
1962-63[3]	65,300	2,274	119	2,700	41,300	4,200	64,300
1963-64	69,300	2,569	122	3,135	45,200	4,700	67,800
1964-65[4]	65,300	2,823	131	3,700	56,700	5,400	83,500
1965-66	72,600	2,883	130	3,755	51,700	5,300	73,400
61-62 to 65-66	344,487	13,117	124	16,277	47,200	24,400	70,800
1966-67[4]	71,000	3,254	123	4,000	56,300	5,400	75,700
1967-68	75,400	2,917	146	4,256	56,400	5,400	72,000
1968-69[4]	69,700	2,904	160	4,654	66,800	5,500	78,700
1969-70	63,800	2,813	173	4,874	76,400	5,400	84,000
1970-71	64,000	3,909	129	5,061	79,100	5,100	79,700
66-67 to 70-71	343,900	15,797	145	22,845	66,400	26,800	77,900
	PROJECTED[5]						
1971-72	65,000	......	...	[6] 5,500	......	5,200	80,000
1972-73	65,000	......	...	[6] 5,900	......	5,200	80,000
1973-74	65,000	......	...	....	....	5,200	80,000
1974-75	65,000	......	...	....	....	5,200	80,000
1975-76	65,000	......	...	....	....	5,200	80,000
71-72 to 75-76	325,000	......	...	....	....	26,000	80,000
1976-77	65,000	......	...	....	....	5,200	80,000
1977-78	65,000	......	...	....	....	5,200	80,000
1978-79	65,000	......	...	....	....	5,200	80,000
1979-80	65,000	......	...	....	....	5,200	80,000
1980-81	65,000	......	...	....	....	5,200	80,000
76-77 to 80-81	325,000	......	...	....	....	26,000	80,000

[1] In 1961-62, 2 percent of capital outlay was estimated to be used for transportation equipment, 15 percent for other equipment, and 83 percent for land and buildings.

[2] Capital outlay was estimated at 122 percent of bond sales, the average for 1959-60 and 1961-62.

[3] Capital outlay was estimated at 119 percent of bond sales, the average for 1961-62 and 1963-64.

[4] Capital outlay was estimated by State departments of education.

[5] Projections of construction of public elementary and secondary school classrooms and of capital outlay are based on the assumptions that: (1) The total number of rooms constructed will remain constant at 65,000 rooms per year, projected on the basis of the 1961-62 to 1970-71 trend; and (2) the capital outlay per room will remain constant at $80,000 per room.

[6] Based on the assumption that the Construction Cost Index will follow the 1966-67 to 1970-71 trend through 1972-73.

For further methodological details, see appendix A, table A-4.

NOTE.—Data are for 50 States and the District of Columbia for all years.

Table 39.—Expenditures for interest by public elementary and secondary school systems: United States, 1960-61 to 1980-81

[In millions]

Year	Total interest including payments to schoolhousing authorities or similar agencies	
	Current dollars	1970-71 dollars
(1)	(2)	(3)
1960-61[1]	$539	$719
1961-62	588	777
1962-63[1]	644	841
1963-64	701	902
1964-65[2]	761	967
1965-66	792	985
1966-67[2]	949	1,145
1967-68	978	1,142
1968-69[2]	1,015	1,131
1969-70[2]	1,180	1,241
1970-71	1,336	1,336
	PROJECTED[3]	
1971-72	[4] 1,452	1,392
1972-73	[4] 1,574	1,449
1973-74	......	1,504
1974-75	......	1,561
1975-76	......	1,618
1976-77	......	1,673
1977-78	......	1,730
1978-79	......	1,786
1979-80	......	1,843
1980-81	......	1,899

[1] Interpolated.

[2] Estimates furnished by State education departments.

[3] Projections of expenditures for interest are based on the assumption that these expenditures will follow the 1960-61 to 1970-71 trend.

[4] Based on the assumption that the Consumer Price Index will follow the 1966-67 to 1970-71 trend through 1971-72.

For methodological details, see appendix A, table A-4.

NOTE.—Data are for 50 States and the District of Columbia for all years.

SOURCES: Data are based on statistics shown in U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Statistics of State School Systems,* 1959-60 to 1967-68; and (2) *Statistics of Public Schools,* fall 1964 through fall 1970.

Conversion to 1970-71 dollars was based on the Consumer Price Index prepared by the Bureau of Labor Statistics, U.S. Department of Labor. For method of converting, see appendix B, table B-6.

Table 40.—Expenditures from current funds and total current expenditures (1970-71 dollars) by institutions of higher education: United States, 1960-61 to 1980-81

(In billions of 1970-71 dollars)

Year and control	Educational and general purposes			Auxiliary enterprises[4]	Student aid[5]	Major public service[6]	Total expenditures from current funds (sum of columns 2 through 7)	Capital outlay from current funds only	Total current expenditures[7] (column 8 less column 9)
	Student education[1]	Organized research[2]	Related activities[3]						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960-61:[8]									
Total	$4.7	$1.6	$0.5	$1.3	$0.3	(9)	$8.4	$0.4	$8.0
Public	2.7	.8	.3	.7	.1		4.6	.2	4.4
Nonpublic	2.0	.8	.2	.6	.2		3.8	.2	3.6
1961-62:									
Total	5.2	2.0	.5	1.5	.3	(9)	9.5	.4	9.1
Public	3.0	1.0	.3	.8	.1		5.2	.2	5.0
Nonpublic	2.2	1.0	.2	.7	.2		4.3	.2	4.1
1962-63:[8]									
Total	5.8	2.3	.5	1.7	.3	(9)	10.6	.6	10.0
Public	3.4	1.1	.3	.9	.1		5.8	.4	5.4
Nonpublic	2.4	1.2	.2	.8	.2		4.8	.2	4.6
1963-64:									
Total	6.4	2.6	.6	1.8	.4	(9)	11.8	.5	11.3
Public	3.8	1.2	.4	1.0	.1		6.5	.3	6.2
Nonpublic	2.6	1.4	.2	.8	.3		5.3	.2	5.1
1964-65:[8]									
Total	7.3	2.8	.7	2.2	.5	(9)	13.5	.6	12.9
Public	4.4	1.3	.4	1.2	.2		7.5	.3	7.2
Nonpublic	2.9	1.5	.3	1.0	.3		6.0	.3	5.7
1965-66:									
Total	8.5	3.0	.9	2.7	.5	(9)	15.6	.8	14.8
Public	5.1	1.4	.6	1.5	.2		8.8	.5	8.3
Nonpublic	3.4	1.6	.3	1.2	.3		6.8	.3	6.5
1966-67:									
Total	9.7	3.0	1.0	2.8	.7	(9)	17.2	.9	16.3
Public	6.0	1.5	.6	1.6	.3		10.0	.6	9.4
Nonpublic	3.7	1.5	.4	1.2	.4		7.2	.3	6.9
1967-68:									
Total	11.2	3.2	1.0	3.0	.8	(9)	19.2	.8	18.4
Public	7.2	1.7	.7	1.7	.4		11.7	.5	11.2
Nonpublic	4.0	1.5	.3	1.3	.4		7.5	.3	7.2
1968-69:									
Total	12.5	[10] 2.3	[11] .6	2.8	.9	[12] 1.5	20.6	.6	20.0
Public	8.2	1.3	.4	1.6	.4	.8	12.7	.4	12.3
Nonpublic	4.3	1.0	.2	1.2	.5	.7	7.9	.2	7.7

See footnotes at end of table.

Table 40.—Expenditures from current funds and total current expenditures (1970-71 dollars) by institutions of higher education: United States, 1960-61 to 1980-81—Continued

(In billions of 1970-71 dollars)

Year and control	Educational and general purposes			Auxiliary enterprises[4]	Student aid[5]	Major public service[6]	Total expenditures from current funds (sum of columns 2 through 7)	Capital outlay from current funds only	Total current expenditures[7] (column 8 less column 9)
	Student education[1]	Organized research[2]	Related activities[3]						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1969-70: [13]									
Total	$13.7	[10] 2.5	[11] $0.6	$3.1	$1.0	[12] 1.5	$22.4	$0.8	$21.6
Public	9.1	1.5	.4	1.8	.5	.8	14.1	.6	13.5
Nonpublic .	4.6	1.0	.2	1.3	.5	.7	8.3	.2	8.1
1970-71: [13]									
Total	14.8	[10] 2.6	[11] .7	3.3	1.2	[12] 1.6	24.2	.7	23.5
Public	10.0	1.5	.5	1.9	.6	.9	15.4	.5	14.9
Nonpublic .	4.8	1.1	.2	1.4	.6	.7	8.8	.2	8.6
					PROJECTED[14]				
1971-72:									
Total	16.2	[10] 2.8	[11] .8	3.5	1.3	[12] 1.8	26.4	.7	25.7
Public.....	11.1	1.6	.5	2.1	.7	1.0	17.0	.5	16.5
Nonpublic .	5.1	1.2	.3	1.4	.6	.8	9.4	.2	9.2
1972-73:									
Total	17.5	[10] 3.0	[11] .9	3.8	1.4	[12] 1.9	28.5	.7	27.8
Public.....	12.1	1.7	.6	2.3	.7	1.1	18.5	.5	18.0
Nonpublic .	5.4	1.3	.3	1.5	.7	.8	10.0	.2	9.8
1973-74:									
Total	18.8	[10] 3.2	[11] .9	4.1	1.5	[12] 2.0	30.5	.7	29.8
Public.....	13.2	1.8	.6	2.5	.8	1.1	20.0	.5	19.5
Nonpublic .	5.6	1.4	.3	1.6	.7	.9	10.5	.2	10.3
1974-75:									
Total	20.2	[10] 3.4	[11] 1.0	4.3	1.7	[12] 2.1	32.7	.7	32.0
Public.....	14.3	1.9	.7	2.6	.9	1.2	21.6	.5	21.1
Nonpublic .	5.9	1.5	.3	1.7	.8	.9	11.1	.2	10.9
1975-76:									
Total	21.7	[10] 3.5	[11] 1.0	4.5	1.9	[12] 2.3	34.9	.7	34.2
Public	15.5	2.0	.7	2.8	1.0	1.3	23.3	.6	22.7
Nonpublic .	6.2	1.5	.3	1.7	.9	1.0	11.6	.1	11.5
1976-77:									
Total	22.9	3.7	[11] 1.1	4.8	2.1	[12] 2.4	37.0	.6	36.4
Public.....	16.5	2.1	.7	3.0	1.2	1.4	24.9	.5	24.4
Nonpublic .	6.4	1.6	.4	1.8	.9	1.0	12.1	.1	12.0
1977-78:									
Total	24.2	[10] 3.9	[11] 1.2	5.0	2.2	[12] 2.5	39.0	.6	38.4
Public	17.6	2.2	.8	3.1	1.3	1.5	26.5	.5	26.0
Nonpublic .	6.6	1.7	.4	1.9	.9	1.0	12.5	.1	12.4

See footnotes at end of table.

Table 40.—Expenditures from current funds and total current expenditures (1970-71 dollars) by institutions of higher education: United States, 1960-61 to 1980-81—Continued

(In billions of 1970-71 dollars)

Year and control	Educational and general purposes			Auxiliary enterprises[4]	Student aid[5]	Major public service[6]	Total expenditures from current funds (sum of columns 2 through 7)	Capital outlay from current funds only	Total current expenditures[7] (column 8 less column 9)
	Student education[1]	Organized research[2]	Related activities[3]						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1978-79:									
Total	$25.3	[10] $4.1	[11] $1.2	$5.2	$2.4	[12] $2.6	$40.8	$0.5	$40.3
Public	18.6	2.3	.8	3.3	1.4	1.5	27.9	.4	27.5
Nonpublic .	6.7	1.8	.4	1.9	1.0	1.1	12.9	.1	12.8
1979-80:									
Total	26.3	4.2	1.3	5.3	2.6	2.7	42.4	.4	42.0
Public	19.5	2.3	.9	3.4	1.5	1.6	29.2	.4	28.8
Nonpublic .	6.8	1.9	.4	1.9	1.1	1.1	13.2	(15)	13.2
1980-81:									
Total	27.2	4.4	1.3	5.5	2.7	2.7	43.8	.3	43.5
Public	20.2	2.5	.9	3.5	1.6	1.6	30.3	.3	30.0
Nonpublic .	7.0	1.9	.4	2.0	1.1	1.1	13.5	(15)	13.5

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[1] Includes general administration, instruction and departmental research, extension and public services, libraries, operation and maintenance of the physical plant, and sponsored activities such as training institutes and related sponsored activities which were specifically financed by outside sources.

[2] Includes all sponsored research and other separately budgeted research through 1967-68. Beginning in 1968-69, expenditures of federally funded research and development centers are included with major public service programs.

[3] Includes expenditures for such categories as laboratory schools, medical school hospitals, dental clinics, home economics cafeterias, agricultural college creameries, college-operated industrial plants connected with instructional programs but not actually integral parts of them, and all other expenditures for educational and general activities which are not specifically identified as expended for "student education" or organized research. Beginning in 1968-69, expenditures for major public service programs formerly included under "related activities" are reported as a separate category.

[4] Auxiliary enterprises include student dormitories, dining halls, cafeterias, student unions, bookstores, faculty housing, athletic programs not part of the instructional program, lectures, concerts, and also include expenditures for plant assets from current funds which are not itemized under educational and general expenditures.

[5] Student aid includes only grants to students in the form of scholarships, fellowships, grants-in-aid, and prizes and awards for which no services are required of the student. Loans to students are not included.

[6] Formerly included with the educational and general group prior to 1968-69. Consists of federally funded research and development centers, hospitals, and other public service programs.

[7] Current-fund expenditures less capital outlay from current funds.

[8] Interpolated.

[9] Not separately reported until 1968-69.

[10] Data for federally funded research and development centers are reported under major public service programs.

[11] Beginning in 1968-69, related activities classified as major public service are reported separately.

[12] Prior to 1968-69, major public service programs were included with several items under educational and general.

[13] Estimated.

[14] The projection of expenditures from current funds is based on the following assumptions: (1) Expenditures per student and the percent of college-age persons attending college, on which expenditures for student education depend, will continue to increase as they did during the years

1960-61 to 1970-71. (2) Expenditures for organized (sponsored and other separately budgeted) research will follow the 1960-61 to 1970-71 trend. (3) The relationship to student education of expenditures for related activities, for auxiliary enterprises, and for student aid will each continue the 1960-61 to 1970-71 trend. (4) The relationship of major public service components to organized research and to related activities will continue as indicated in 1968-69, the first and only reported data available. (5) The 1970-71 to 1980-81 expenditures from current funds for capital outlay will approximate 16 percent of total capital outlay.

[15] Less than 0.05 billion dollars.

NOTE.—Data are for 50 States and the District of Columbia for all years.

SOURCES: See table 41. Conversion to 1970-71 dollars was based on the Consumer Price Index published by the Bureau of Labor Statistics, U.S. Department of Labor, and (for capital outlay) on the American Appraisal Company Construction Cost Index. For method of converting the indexes, see appendix B, table B-6.

Table 41.—Expenditures from current funds and total current expenditures (current dollars) by institutions of higher education: United States, 1960-61 to 1972-73

(In billions of current dollars)

Year and control	Educational and general purposes			Auxiliary enterprises[4]	Student aid[5]	Major public service[6]	Total expenditures from current funds (sum of columns 2 through 7)	Capital outlay from current funds only	Total current expenditures[7] (column 8 less column 9)
	Student education[1]	Organized research[2]	Related activities[3]						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960-61:[8]									
Total	$3.6	$1.2	$0.3	$1.0	$0.2	(9)	$6.3	$0.3	$6.0
Public	2.1	.6	.2	.5	.1		3.5	.2	3.3
Nonpublic .	1.5	.6	.1	.5	.1		2.8	.1	2.7
1961-62:									
Total	3.9	1.5	.3	1.2	.2	(9)	7.1	.3	6.8
Public	2.3	.7	.2	.6	.1		3.9	.2	3.7
Nonpublic .	1.6	.8	.1	.6	.1		3.2	.1	3.1
1962-63:[8]									
Total	4.4	1.7	.5	1.3	.3	(9)	8.2	.5	7.7
Public	2.6	.8	.3	.7	.1		4.5	.3	4.2
Nonpublic .	1.8	.9	.2	.6	.2		3.7	.2	3.5
1963-64:									
Total	5.0	1.9	.5	1.5	.3	(9)	9.2	.4	8.8
Public.....	3.0	.9	.3	.8	.1		5.1	.2	4.9
Nonpublic .	2.0	1.0	.2	.7	.2		4.1	.2	3.9
1964-65:[8]									
Total	5.7	2.2	.6	1.8	0.3	(9)	10.6	0.5	10.1
Public.....	3.4	1.0	.4	1.0	.1		5.9	.3	5.6
Nonpublic .	2.3	1.2	.2	.8	.2		4.7	.2	4.5
1965-66:									
Total	6.8	2.5	.6	2.1	.4	(9)	12.4	.5	11.9
Public.....	4.1	1.2	.4	1.2	.1		7.0	.3	6.7
Nonpublic .	2.7	1.3	.2	.9	.3		5.4	.2	5.2
1966-67:									
Total	8.0	2.5	.8	2.3	.6	(9)	14.2	.6	13.6
Public.....	5.0	1.2	.5	1.3	.3		8.3	.4	7.9
Nonpublic .	3.0	1.3	.3	1.0	.3		5.9	.2	5.7
1967-68:									
Total	9.6	2.7	.9	2.6	.7	(9)	16.5	.7	15.8
Public.....	6.2	1.4	.6	1.5	.3		10.0	.4	9.6
Nonpublic..	3.4	1.3	.3	1.1	.4		6.5	.3	6.2
1968-69:									
Total	11.3	[10] 2.0	[11] .5	2.5	.9	[12] 1.3	18.5	.6	17.9
Public.....	7.4	1.2	.3	1.4	.4	.7	11.4	.4	11.0
Nonpublic..	3.9	.8	.2	1.1	.5	.6	7.1	.2	6.9
1969-70:[13]									
Total	13.0	[10] 2.3	[11] .6	2.9	1.0	[12] 1.5	21.3	.7	20.6
Public.....	8.7	1.3	.4	1.7	.5	.8	13.4	.5	12.9
Nonpublic..	4.3	1.0	.2	1.2	.5	.7	7.9	.2	7.7

See footnotes at end of table.

Table 41.—Expenditures from current funds and total current expenditures (current dollars) by institutions of higher education: United States, 1960-61 to 1972-73—Continued

(In billions of current dollars)

Year and control	Educational and general purposes			Auxiliary enterprises[4]	Student aid[5]	Major public service[6]	Total expenditures from current funds (sum of columns 2 through 7)	Capital outlay from current funds only	Total current expenditures[7] (column 8 less column 9)
	Student education[1]	Organized research[2]	Related activities[3]						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1970-71:[13]									
Total.......	$14.8	[10] 2.6	[11] $0.7	$3.3	$1.2	[12] $1.6	$24.2	$0.7	$23.5
Public.....	10.0	1.5	.5	1.9	.6	.9	15.4	.5	14.9
Nonpublic .	4.8	1.1	.2	1.4	.6	.7	8.8	.2	8.6
PROJECTED[14]									
1971-72:									
Total.......	16.9	[10] 3.0	[11] .8	3.7	1.4	[12] 1.8	27.6	.8	26.8
Public.....	11.6	1.7	.5	2.2	.7	1.0	17.7	.6	17.1
Nonpublic .	5.3	1.3	.3	1.5	.7	.8	9.9	.2	9.7
1972-73:									
Total.......	19.0	[10] 3.3	[11] .9	4.1	1.6	[12] 2.1	31.0	.8	30.2
Public.....	13.2	1.8	.6	2.5	.8	1.2	20.1	.6	19.5
Nonpublic .	5.8	1.5	.3	1.6	.8	.9	10.9	.2	10.7

[1] Includes general administration, instruction and departmental research, extension and public services, libraries, operation and maintenance of the physical plant, and sponsored activities such as training institutes and related sponsored activities which were specifically financed by outside sources.

[2] Includes all sponsored research and other separately budgeted research through 1967-68. Beginning in 1968-69, expenditures of federally funded research and development centers are included with major public service programs.

[3] Includes expenditures for such categories as laboratory schools, medical school hospitals, dental clinics, home economics cafeterias, agricultural college creameries, college-operated industrial plants connected with instructional programs but not actually integral parts of them, and all other expenditures for educational and general activities which are not specifically identified as expended for "student education" or organized research. Beginning in 1968-69, expenditures for major public service programs formerly included under "related activities" are reported as a separate category.

[4] Auxiliary enterprises include student dormitories, dining halls, cafeterias, student unions, bookstores, faculty housing, athletic programs not part of the instructional program, lectures, concerts, and also include expenditures for plant assets from current funds which are not itemized under educational and general expenditures.

[5] Student aid includes only grants to students in the form of scholarships, fellowships, grants-in-aid, and prizes and awards for which no services are required of the student. Loans to students are not included.

[6] Formerly included with the educational and general group prior to 1968-69. Consists of federally funded research and development centers, hospitals, and other major public service programs.

[7] Current-fund expenditures less capital outlay from current funds.

[8] Interpolated.

[9] Not separately reported until 1968-69.

[10] Data for federally funded research and development centers are reported under major public service programs.

[11] Beginning in 1968-69, related activities classified as major public service are reported separately.

[12] Prior to 1968-69, major public service programs were included with several items under educational and general.

[13] Estimated.

[14] Projected by applying the 1966-67 to 1970-71 trend in the Consumer Price Index to the projected expenditures of current funds in constant dollars (table 40).

For further methodological details, see appendix A, table A-4.

NOTE.—Data are for 50 States and the District of Columbia for all years.

SOURCES: Expenditure data from U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Financial Statistics of Institutions of Higher Education,* 1959-60; (2) *Higher Education Finances,* 1961-62 and 1963-64; (3) *Financial Statistics of Institutions of Higher Education: Current Funds Revenues and Expenditures* and *Property and Physical Plant Assets,* 1965-66 and 1966-67; (4) *Financial Statistics of Institutions of Higher Education: Current Funds Revenues and Expenditures, 1968-69;* and (5) unpublished data in the Office of Education.

Table 42.—Capital outlay of institutions of higher education: United States, 1960-61 to 1980-81

Year	Total		Public		Nonpublic	
	Billions of current dollars	Billions of 1970-71 dollars	Billions of current dollars	Billions of 1970-71 dollars	Billions of current dollars	Billions of 1970-71 dollars
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1960-61[1]	$1.737	$2.843	$0.932	$1.525	$0.805	$1.318
1961-62	1.714	2.726	1.010	1.606	.704	1.120
1962-63[1]	2.534	3.935	1.596	2.478	.938	1.457
1963-64	2.466	3.727	1.518	2.294	.948	1.433
1964-65[1]	2.825	4.162	1.595	2.350	1.230	1.812
1965-66	3.253	4.620	2.064	2.931	1.189	1.689
1961-62 to 1965-66	12.792	19.170	7.783	11.659	5.009	7.511
1966-67	3.943	5.298	2.573	3.457	1.370	1.841
1967-68	4.175	5.324	2.732	3.484	1.443	1.840
1968-69[2]	4.134	4.868	2.900	3,415	1.234	1.453
1969-70[2]	4.259	4.684	3.207	3.527	1.052	1.157
1970-71[2]	4.540	4.540	3.551	3.551	.989	.989
1966-67 to 1970-71	21.051	24.714	14.963	17.434	6.088	7.280
			PROJECTED[3]			
1971-72	$4.689	$4.410	$3.671	$3.452	$1.018	$0.958
1972-73	4.913	4.359	3.848	3.414	1.065	.945
1973-74		4.385		3.440		.945
1974-75		4.225		3.384		.841
1975-76		4.003		3.297		.706
1971-72 to 1975-76		21.382		16.987		4.395
1976-77		3.744		3.168		.576
1977-78		3.382		2.951		.431
1978-79		2.916		2.651		.265
1979-80		2.475		2.296		.179
1980-81		2.138		2.003		.135
1976-77 to 1980-81		14.655		13.069		1.586

See footnotes on following page.

[1] Interpolation based on reported value of plant at close of previous year and beginning of following year.

[2] Estimated.

[3] The projection of capital outlay is based on two known factors: (1) The increase in value of plant during the base period, and (2) the annual increase in the number of full-time-equivalent students among all students in higher education, and a projection of the annual increase in the numbers of these students to fall 1980. The following assumptions were made: (1) Since the increase in value of plant did not represent total capital outlay, an estimate of the cost of replacement and rehabilitation at 1 percent of the value of plant at the end of each base period year was added. (2) Capital outlay per additional FTE student related reasonably well provided that a 5-year moving average was applied to the annual increases in FTE students and that decreases in the 5-year moving average be given only 50 percent weight and that minus decreases in the 5-year moving average be given zero weight. (3) The trends in capital outlay per FTE student would level off at the 1967-68 level and remain constant to 1980-81.

For further methodological details, see appendix A, table A-4.

NOTE.–Data are for 50 States and the District of Columbia for all years.

SOURCES: Capital outlay data from U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Financial Statistics of Institutions of Higher Education, 1959-60;* (2) *Higher Education Finances,* 1961-62 and 1963-64; (3) *Financial Statistics of Institutions of Higher Education: Property and Physical Plant Assets,* 1965-66, 1966-67, 1967-68; and (4) unpublished data in the Office of Education.

CHAPTER VI

Student Charges by Institutions of Higher Education

C. George Lind

Definition and limitations

Estimated average student charges are based on the charges reported by institutions of higher education for the years 1961-62 through 1964-65, 1966-67, and 1968-69, weighted by the number of full-time students attending the institution. The charges were those to a typical undergraduate full-time resident-in-State student. Since reports on student attendance during the 1961-62 through 1964-65 and 1966-67 base years did not identify the full-time students as undergraduates, graduates, or nonresidents, the weighting factor assumes that graduates and nonresidents are charged the undergraduate and resident tuition and fees. Undergraduates were identified in reports on students for 1968-69.

Estimated average charges per student (entire academic year) (tables 43 and 44)

The estimated average student charges (tuition and required fees, board, and room) by publicly controlled institutions of higher education, in 1970-71 constant dollars, increased from $1,134 in 1960-61 to $1,273 in 1970-71 and are expected to reach $1,450 by 1980-81 (table 43). Estimated average student charges by nonpublicly controlled institutions of higher education were $2,137 in 1960-61 and $2,712 in 1970-71 and are expected to reach $3,382 by 1980-81.

Tuition and required fees are largely responsible for the increases in student charges. Tuition and fees, in constant 1970-71 dollars, charged by publicly controlled institutions rose from $281 in 1960-61 to $344 in 1970-71 and are expected to reach $419 by 1980-81.

Nonpublicly controlled institutions charged an estimated average tuition and fees of $1,143 in 1960-61 and $1,649 in 1970-71 and are projected to be $2,193 by 1980-81. Required fees are those for matriculation, laboratory, library, health, etc., but do not include books. Charges for tuition and required fees vary to a considerable extent by control and type of institution. Two factors bear upon the variation: (1) income of public institutions from governmental sources and (2) the varying cost of educating a student in different types of institutions.

The charges for board, while increasing slightly during the base period (table 44), when adjusted to constant 1970-71 dollars (table 43) had declined slightly in all but nonpublic 2-year institutions. The declines are not projected and, in effect, the assumption is made that the many large institutions which had held their board charges unchanged, in current unadjusted dollars, would not be able to continue that practice during the next decade.

Nonpublicly controlled institutions generally charge more than publicly controlled institutions for dormitory rooms, and universities generally charge more than other types of institutions. However, the rates of the increases in charges for dormitory rooms are not markedly dissimilar by either control or type of institution, and the variations in the charges may be ascribed to the level of accommodation afforded.

Table 43.—Estimated average charges (1970-71 dollars) per full-time undergraduate resident degree-credit student in institutions of higher education, by institutional type and control: United States, 1960-61 to 1980-81

[Charges are for the academic year and in constant 1970-71 dollars]

Year and control	Total tuition, board, and room				Tuition and required fees				Board (7-day basis)				Dormitory rooms			
	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1960-61:[1]																
Public	$1,134	$1,227	$1,020	$769	$281	$336	$228	$108	$562	$573	$544	$470	$291	$318	$248	$191
Nonpublic .	2,137	2,410	2,006	1,500	1,143	1,336	1,048	654	627	662	617	558	367	412	341	288
1961-62:[2]																
Public	1,148	1,251	1,040	791	288	350	240	116	559	572	540	470	301	329	260	205
Nonpublic .	2,200	2,486	2,074	1,582	1,197	1,399	1,107	709	623	660	613	564	380	427	354	309
1962-63:[2]																
Public	1,177	1,287	1,063	803	290	350	251	127	568	595	526	471	319	342	286	205
Nonpublic .	2,250	2,640	2,099	1,659	1,232	1,500	1,134	783	620	662	603	557	398	478	362	319
1963-64:[2]																
Public	1,192	1,320	1,090	811	301	362	277	125	560	602	514	465	331	356	299	221
Nonpublic .	2,336	2,709	2,187	1,690	1,302	1,565	1,203	826	627	664	611	550	407	480	373	314
1964-65:[2]																
Public	1,207	1,336	1,102	811	309	379	285	126	554	587	511	459	344	[illegible]	306	226
Nonpublic .	2,424	2,798	2,300	1,849	1,383	1,648	1,300	892	620	654	609	590	421	496	391	367
1965-66:[3]																
Public	1,223	1,375	1,123	834	321	407	299	136	552	589	507	456	350	379	317	[illegible]
Nonpublic .	2,493	2,882	2,361	1,938	1,435	1,703	1,351	956	615	658	600	589	443	521	410	393
1966-67:[2]																
Public	1,238	1,412	1,142	857	332	434	312	146	551	591	503	454	355	387	327	257
Nonpublic .	2,561	2,963	2,421	2,026	1,487	1,757	1,402	1,019	610	661	591	588	464	545	428	419

See footnotes at end of table.

Table 43.—Estimated average charges (1970-71 dollars) per full-time undergraduate resident degree-credit student in institutions of higher education, by institutional type and control: United States, 1960-61 to 1980-81—Continued

[Charges are for the academic year and in constant 1970-71 dollars]

Year and control	Total tuition, board, and room				Tuition and required fees				Board (7-day basis)				Dormitory rooms			
	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1967-68:[3]																
Public	$1,240	$1,400	$1,164	$922	$330	$427	$313	$168	$545	$579	$510	$470	$365	$394	$341	$284
Nonpublic .	2,573	2,970	2,456	2,058	1,514	1,791	1,445	1,042	602	649	585	589	457	530	426	427
1968-69:[2]																
Public	1,244	1,387	1,184	984	329	420	313	189	540	567	517	485	375	400	354	310
Nonpublic .	2,585	2,977	2,491	2,089	1,540	1,824	1,487	1,065	595	637	579	589	450	516	425	435
1969-70:[1]																
Public	1,258	1,411	1,204	1,006	336	434	325	197	537	566	513	485	385	411	366	324
Nonpublic .	2,648	3,053	2,559	2,171	1,594	1,887	1,546	1,120	591	635	575	595	463	531	438	456
1970-71:[1]																
Public	1,273	1,435	1,224	1,028	344	448	337	206	534	566	508	484	395	421	379	338
Nonpublic .	2,712	3,129	2,625	2,251	1,649	1,950	1,605	1,174	588	633	570	600	475	546	450	477
PROJECTED[4]																
1971-72:																
Public	1,290	1,460	1,248	1,050	351	462	349	214	534	566	508	484	405	432	391	352
Nonpublic .	2,779	3,207	2,697	2,334	1,703	2,013	1,664	1,229	588	633	570	606	488	561	463	499
1972-73:																
Public	1,309	1,484	1,273	1,071	359	476	361	222	534	566	508	484	416	442	404	365
Nonpublic .	2,846	3,285	2,768	2,414	1,758	2,076	1,723	1,283	588	633	570	611	500	576	475	520

See footnotes at end of table.

Table 43.—Estimated average charges (1970-71 dollars) per full-time undergraduate resident degree-credit student in institutions of higher education, by institutional type and control: United States, 1960-61 to 1980-81—Continued

[Charges are for the academic year and in constant 1970-71 dollars]

Year and control	Total tuition, board, and room				Tuition and required fees				Board (7-day basis)				Dormitory rooms			
	All	Uni-versity	Other 4-year	2-year	All	Uni-versity	Other 4-year	2-year	All	Uni-versity	Other 4-year	2-year	All	Uni-versity	Other 4-year	2-year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
								PROJECTED[4]								
1973-74:																
Public	$1,326	$1,509	$1,297	$1,094	$366	$490	$373	$231	$534	$566	$508	$484	$426	$453	$416	$379
Nonpublic .	2,913	3,363	2,840	2,496	1,812	2,139	1,782	1,338	588	633	570	617	513	591	488	541
1974-75:																
Public	1,344	1,534	1,321	1,116	374	504	385	239	534	566	508	484	436	464	428	393
Nonpublic .	2,981	3,441	2,911	2,576	1,867	2,202	1,841	1,392	588	633	570	622	526	606	500	562
1975-76:																
Public	1,361	1,558	1,346	1,138	381	518	397	247	534	566	508	484	446	474	441	407
Nonpublic .	3,047	3,519	2,983	2,658	1,921	2,265	1,900	1,447	588	633	570	628	538	621	513	583
1976-77:																
Public	1,379	1,583	1,370	1,161	389	532	409	256	534	566	508	484	456	485	453	421
Nonpublic .	3,114	3,597	3,054	2,740	1,975	2,328	1,959	1,501	588	633	570	634	551	636	525	605
1977-78:																
Public	1,396	1,607	1,394	1,183	396	546	421	264	534	566	508	484	466	495	465	435
Nonpublic .	3,181	3,674	3,126	2,821	2,030	2,390	2,018	1,556	588	633	570	639	563	651	538	626
1978-79:																
Public	1,414	1,632	1,419	1,206	404	560	433	273	534	566	508	484	476	506	478	449
Nonpublic .	3,248	3,752	3,198	2,902	2,084	2,453	2,077	1,610	588	633	570	645	576	666	551	647
1979-80:																
Public	1,431	1,657	1,443	1,228	411	574	445	281	534	566	508	484	486	517	490	463
Nonpublic .	3,316	3,830	3,269	2,983	2,139	2,516	2,136	1,665	588	633	570	650	589	681	563	668
1980-81:																
Public	1,450	1,681	1,468	1,249	419	588	457	289	534	566	508	484	497	527	503	476
Nonpublic .	3,382	3,908	3,341	3,065	2,193	2,579	2,195	1,720	588	633	570	656	601	696	576	689

See footnotes on following page.

[1] Estimated.

[2] Represents charges weighted by numbers of full-time degree-credit students, 1961-62 through 1964-65; weighted by full-time resident students for 1966-67; and by full-time undergraduate degree-credit students for 1968-69. These charges, shown in table 44 in current dollars, were converted to 1970-71 constant dollars by application of the Consumer Price Index. See constant dollar index, appendix B, table 6.

[3] Interpolated.

[4] The projection of basic student charges is based on the assumption that these charges will continue to increase through 1980-81 as they did during the base years of 1961-62 through 1964-65, 1966-67, and 1968-69 in constant dollars. Decreases in charges for board during the base period are not projected and are frozen at the 1970-71 level. The base-year data for board charges, in current unadjusted dollars, did show increases for all types of institutions, both publicly and privately controlled, but not enough to offset the application of the Consumer Price Index for the computation of constant 1970-71 dollars.

For further methodological details, see appendix A, table 5.

NOTE.—Data are for 50 States and the District of Columbia for all years.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Higher Education Basic Student Charges,* 1961-62 through 1964-65, 1966-67, and 1968-69; and (2) *Opening (Fall) Enrollment in Higher Education,* 1961 through 1964, 1966, and 1968.

Table 44.—Estimated average charges (current dollars) per full-time undergraduate resident degree-credit student in institutions of higher education, by institutional type and control: United States, 1960-61 to 1972-73

(Charges are for the academic year and in current unadjusted dollars)

Year and control	Total tuition, board, and room				Tuition and required fees				Board (7-day basis)				Dormitory rooms			
	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1960-61:[1]																
Public	$850	$919	$765	$576	$211	$252	$171	$81	$421	$429	$408	$352	$218	$238	$186	$143
Nonpublic . .	1,602	1,806	1,503	1,124	857	1,001	785	490	470	496	462	418	275	309	256	216
1961-62:																
Public	869	947	788	599	218	265	182	88	423	433	409	356	228	249	197	155
Nonpublic . .	1,666	1,882	1,570	1,198	906	1,059	838	537	472	500	464	427	288	323	268	234
1962-63:																
Public	901	986	814	615	222	268	192	97	435	456	403	361	244	262	219	157
Nonpublic . .	1,724	2,022	1,608	1,271	944	1,149	869	600	475	507	462	427	305	366	277	244
1963-64:																
Public	926	1,026	846	630	234	281	215	97	435	468	399	361	257	277	232	172
Nonpublic . .	1,815	2,105	1,700	1,313	1,012	1,216	935	642	487	516	475	427	316	373	290	244
1964-65:																
Public	950	1,051	867	638	243	298	224	99	436	462	402	361	271	291	241	178
Nonpublic . .	1,907	2,202	1,810	1,455	1,088	1,297	1,023	702	488	515	479	464	331	390	308	289
1965-66:[1]																
Public	983	1,106	903	671	258	327	240	109	444	474	408	367	281	305	255	195
Nonpublic . .	2,004	2,317	1,898	1,559	1,154	1,369	1,086	769	494	529	482	474	356	419	330	316

See footnotes at end of table.

Table 44.—Estimated average charges (current dollars) per full-time undergraduate resident degree-credit student in institutions of higher education, by institutional type and control: United States, 1960-61 to 1972-73—Continued

(Charges are for the academic year and in current unadjusted dollars)

Year and control	Total tuition, board, and room				Tuition and required fees				Board (7-day basis)				Dormitory rooms			
	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1966-67:																
Public	$1,026	$1,171	$947	$710	$275	$360	$259	$121	$457	$490	$417	$376	$294	$321	$271	$213
Nonpublic..	2,124	2,456	2,007	1,679	1,233	1,456	1,162	845	506	548	490	487	385	452	355	347
1967-68:[1]																
Public	1,063	1,199	997	790	283	366	268	144	467	496	437	403	313	337	292	243
Nonpublic..	2,204	2,544	2,104	1,763	1,297	1,534	1,238	893	516	556	501	504	391	454	365	366
1968-69:																
Public	1,117	1,245	1,063	883	295	377	281	170	485	509	464	435	337	359	318	278
Nonpublic..	2,321	2,673	2,237	1,876	1,383	1,638	1,335	956	534	572	520	529	404	463	382	391
1969-70:[1]																
Public	1,197	1,342	1,145	956	320	413	309	187	511	538	488	461	366	391	348	308
Nonpublic..	2,518	2,903	2,434	2,065	1,516	1,794	1,470	1,065	562	604	547	566	440	505	417	434
1970-71:[1]																
Public	1,273	1,435	1,224	1,028	344	448	337	206	534	566	508	484	395	421	379	338
Nonpublic..	2,712	3,129	2,625	2,251	1,649	1,950	1,605	1,174	588	633	570	600	475	546	450	477
								PROJECTED								
1971-72:[1]																
Public	1,349	1,527	1,305	1,098	367	483	365	224	558	592	531	506	424	452	409	368
Nonpublic..	2,906	3,354	2,820	2,441	1,781	2,105	1,740	1,285	615	662	596	634	510	587	484	522
1972-73:[1]																
Public	1,428	1,621	1,390	1,168	392	520	394	242	582	618	555	528	454	483	441	398
Nonpublic..	3,107	3,586	3,022	2,636	1,919	2,266	1,881	1,401	642	691	622	667	546	629	519	568

See footnotes on following page.

[1] Data for 1960-61, 1965-66, 1967-68, and 1969-70 through 1972-73 estimated by applying the Consumer Price Index to the data in table 43. See constant dollar index, appendix B, table 6.

For further methodological details, see appendix A, table 5.

NOTE.—Data are for 50 States and the District of Columbia for all years.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Higher Education Basic Student Charges,* 1961-62 through 1964-65, 1966-67, and 1968-69; and (2) *Opening (Fall) Enrollment in Higher Education,* 1961 through 1964, 1966, and 1968.

APPENDIX A

General Methodology

Estimation Methods

Classification of Degrees by Field of Study

Changes in Degree-Level Definitions

Glossary

APPENDIX A

General Methodology

The 1971 projections of educational statistics by the U.S. Office of Education are based on reports of regular day schools, both public and private, and of accredited institutions of higher education listed in the Education Directory of the Office of Education.[1] The projections include enrollments at all levels, high school graduates, degrees by level and field, teacher and faculty demand, and expenditures in elementary and secondary schools and in institutions of higher education. Of these projections, those based directly on population were for: the number of children attending independent nursery and kindergarten schools, those attending kindergarten and first grade of regular public schools, enrollments in higher education, and high school graduates. The other projections, with the exception of enrollment in grades two through 12 of the public schools, degrees by level, and degrees by field, were based on enrollments. Enrollments in grades two through 12 of public schools were based on grade retention rates. (Retention rates could not be used for projecting higher education enrollments because the data on these enrollments have not been collected by year of enrollment.) Degrees by level were based on both enrollments and population, and degrees by field were based on enrollments and the distribution of total degrees by field.

Population aged 18-21 years was used for projecting college enrollments. It is recognized that not all college enrollments fall in this age group; nevertheless, in the absence of data on age of college students, some fairly sensitive yet stable exposure measure had to be used. Since about two-thirds of all degree-credit enrollment is full time, it can be assumed that around the same proportion of the students fit the population age group used. The population averaging 18 years of age was chosen for projecting both high school graduates and first-time college enrollment. This age group gave a smoother fit when correlated with these data than could be obtained with other age groups. For projecting kindergarten and first-grade enrollments, the populations aged 5 and 6 years, respectively, were used.

For estimating and projecting degrees, both population and enrollments were used. Estimates and projections in the beginning of the projected time period (1970-71 to 1973-74 for bachelor's and first-professional degrees, 1970-71 for master's degrees, and 1970-71 to 1974-75 for doctor's degrees) were based on enrollments, while the remainder of the projections (through 1980-81) were based on the composite population.

The composite population is representative of the actual ages of the recipients of bachelor's degrees. (For details of estimating the population, see appendix A, "Estimation Methods," section 5.) Age at time of master's degrees was assumed to be 2 years older than at time of bachelor's degrees, and age at time of doctor's degrees was assumed to be 5 years older than at time of bachelor's degrees. The choices of average time elapsed between bachelor's degrees and master's degrees and between bachelor's degrees and doctor's degrees were made empirically.

For making the projections, least-squares regression methods were used wherever a trend could be established. Where no consistent series was available or the data were too irregular to establish a trend, a constant based on the latest observation or an average of the last two or three observations was used.

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[1] U.S. Department of Health, Education, and Welfare, Office of Education, *Education Directory, 1970-71, Higher Education,* Washington, D.C.: U.S. Government Printing Office, 1971.

In several instances, when noticeable changes in the direction of the trend were indicated by recent observations, the exponential smoothing technique[2] was used to determine the straight line that was used for projecting. The advantage of using exponential smoothing is that it assigns more weight to the most recent observations, whereas regression methods assign equal weight to all observations.

For some projections—such as graduate enrollments, enrollments in institutions of higher education by full-time and part-time attendance, and non degree-credit enrollments—relationships had to be obtained from a different series of data and transferred to the opening fall higher education enrollment series. The latter series is current and has been reasonably consistent in the past, although prior to 1969 it lacked some detailed characteristics which are required by educators for decisionmaking.

To estimate trends, observations in the 11 most recent years were used, and these trends were extrapolated for 10 years into the future. The 11-year timespan was considered better than a longer timespan because of rapid changes in economic and social conditions and improvements in the available statistics in recent years.

Logistic growth curves of the form

$$y' = \frac{K}{1+e^{-(a+bt)}},$$

fitted by the least-squares technique to a ratio (for example, of enrollment to population) as the dependent variable and time in years as the independent variable, were used for projecting whenever possible.

This type of curve is asymptotic (has an upper limit) at K, which must be selected based on consideration of the statistic being projected. For example, the percentage of 3-year-olds enrolled in nursery or kindergarten must be 100 percent or less. Therefore, 100 percent might be used for K. However, if it is assumed that there will always be some 3-year-olds who will not attend nursery or kindergarten, a smaller value, say 75 percent, might be selected as the value for K.

An advantage of using logistic growth curves is that projections can be extended indefinitely without yielding unrealistic results.

The fitted logistic growth curve often lies considerably above or below the last observed point, resulting in an unusual rise or drop from the last actual observation. To avoid this and give face validity to the projections, the fitted curve was used only to establish the last point, and a new curve was drawn through the last observed ratio and the end point on the fitted curve. (In this case, the fitted equation is used only to establish the ratio at the end of the 10-year span.)

For each major area (enrollments, degrees, teachers, and expenditures), the tables that follow outline the equations and constants that were used; the standard error and index of determination, when appropriate; and the adjusted equations, if used.

Since logistic growth curves are fitted by making the transformation

$$z' = \log \frac{y'}{K-y'}$$

and then fitting a straight line to the z′ values, the standard error applies to the z′ values, not the y′ values. Footnotes explain the meaning of the variables and constants used for estimating.

The tables are followed by sections which explain the methods used in estimating missing data of the past 10 years, define the meaning of terms as used by the Office of Education in requesting data, and outline the classification of summarized degree data.

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[2] For a detailed explanation of exponential smoothing see *Smoothing, Forecasting and Prediction,* by Robert Goodel Brown, Prentice-Hall, Inc., 1963.

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Table A-1.—Methodology (Chapter II)

Item	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (y=percent; t=year; 1960=1)[1]	Index of determination	Standard error	Adjusted equation[2]	
Fall enrollment (independent public kindergarten and nursery schools)[3]	2						([4])
3 years old[5]			$y'=25/\left[1+e^{(3.45-0.22t)}\right]$	0.93	0.15	$y'=25/\left[1+e^{(3.29-0.22t)}\right]$	
4 years old[6]			$y'=40/\left[1+e^{(1.55-0.12t)}\right]$	.91	.092	$y'=40/\left[1+e^{(1.43-0.12t)}\right]$	
5 years old[7]			$y'=80/\left[1+e^{-(0.24+0.12t)}\right]$	.97	.049	$y'=80/\left[1+e^{-(0.33+0.11t)}\right]$	
6 years old[8]		3.88					
Fall enrollment (independent nonpublic kindergarten and nursery schools)[3]	2						([9])
3 years old[10]			$y'=50/\left[1+e^{(2.88-0.19t)}\right]$	.95	.10	$y'=50/\left[1+e^{(2.61-0.17t)}\right]$	
4 years old[11]			$y'=40/\left[1+e^{(1.70-0.15t)}\right]$	.98	.056	$y'=40/\left[1+e^{(1.59-0.15t)}\right]$	
5 years old[12]		11.66					
6 years old[13]		25,000					
Fall enrollment (regular public day schools)	3						
Kindergarten[14]			$y'=100/\left[1+e^{(0.218-0.080t)}\right]$	.91	.089	$y'=100/\left[1+e^{-(0.038+0.071t)}\right]$	
Grade 1[15]		98.0					
Grade 2[16]		94.6					
Grade 3[17]		98.7					
Grade 4[18]		98.8					
Grade 5[19]		99.3					
Grade 6[20]		99.4					
Grade 7[21]			$y'_7(t)=y'_6(t-1)+2.70C(t-1)$				
Grade 8[22]		98.2					
Grade 9[23]			$y'_9(t)=y'_8(t-1)+3.80C(t-1)$				

See footnotes at end of table.

Table A-1.—Methodology (Chapter II)—Continued

Item	Text table number	Projection method					
			Trend				
		Constant	Least squares equation (y=percent; t=year; 1960=1)[1]	Index of determination	Standard error	Adjusted equation[2]	Other
Grade 10[24]		97.0					
Grade 11[25]		92.0					
Grade 12[26]		91.0					
Elementary ungraded[27]			$y'=10/\left[1+e^{(2.554-0.094t)}\right]$	0.90	0.107	$y'=10/\left[1+e^{(2.352-0.084t)}\right]$	
Secondary ungraded[28]			$y'=0.825+0.083t$	.96	.060	$y'=1.050+0.072t$	
Postgraduate[29]			$y'=-0.014+0.057t$	.82	.093	$y'=0.259+0.044t$	
Organizational level[30]	4		$y'=100/\left[1+e^{-(0.091+0.068t)}\right]$	.82	.113	$y'=100/\left[1+e^{-(0.095+0.068t)}\right]$	
Fall enrollment (regular nonpublic day schools)	3, 4						
Grades kindergarten to 8							([31])
Grades 9 to 12							([32])
Degree-credit fall enrollment	6, 8, 13						
Men, public 4-year institutions[33]			$y'=60/\left[1+e^{(0.687-0.079t)}\right]$	.97	.048	$y'=60/\left[1+e^{(0.576-0.073t)}\right]$	
Women, public 4-year institutions[33]			$y'=60/\left[1+e^{(1.445-0.099t)}\right]$	.98	.055	$y'=60/\left[1+e^{(1.281-0.090t)}\right]$	
Men, private 4-year institutions[33]			$y'=18.66-0.18t$	.73	.38	$y'=19.06-0.20t$	
Women, private 4-year institutions[34]		10.9					
Men, public 2-year institutions[33]			$y'=25/\left[1+e^{(1.57-0.13t)}\right]$	.96	.088	$y'=25/\left[1+e^{(1.25-0.11t)}\right]$	
Women, public 2-year institutions[33]			$y'=25/\left[1+e^{(2.25-0.13t)}\right]$	.97	.088	$y'=25/\left[1+e^{(1.89-0.12t)}\right]$	
Men, private 2-year institutions[34]		0.80					
Women, private 2-year institutions[34]		0.72					
Non-degree-credit fall enrollment	9-11						
Men, public 4-year institutions[35]			$y'=0.782-.030t$	([36])	([36])		
Women, public 4-year institutions[37]		0.27					
Men, private 4-year institutions[37]		0.17					

See footnotes at end of table.

Table A-1.—Methodology (Chapter II)—Continued

Item	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (y=percent; t=year; 1960=1)[1]	Index of determination	Standard error	Adjusted equation[2]	
Women, private 4-year institutions[37]		0.13					
Men, public 2-year institutions[35]			$y'=1.07+0.33t$	0.95	0.26	$y'=1.47+0.31t$	
Women, public 2-year institutions[35]			$y'=0.25+0.26t$	.98	.12	$y'=0.34+0.25t$	
Men, private 2-year institutions[38]		4,000					
Women, private 2-year institutions[38]		7,000					
Full-time non-degree-credit fall enrollment[39]	9-11						
Men, public 4-year institutions		57.0					
Women, public 4-year institutions		46.0					
Men, private 4-year institutions		44.0					
Women, private 4-year institutions		48.0					
Men, public 2-year institutions		49.0					
Women, public 2-year institutions		48.0					
Men, private 2-year institutions		60.0					
Women, private 2-year institutions		86.0					
Full-time-equivalent degree-credit fall enrollment[40]	12						
Public institutions		33.0					
Private institutions		33.0					
Full-time-equivalent non-degree-credit fall enrollment[41]	12						
Public institutions		28.0					
Private institutions		28.0					
First-time degree-credit fall enrollment	14-16						
Men, public 4-year institutions[42]			$y'=16.10+0.45t$	0.84	0.68	$y'=14.50+0.53t$	

See footnotes at end of table.

Table A-1.—Methodology (Chapter II)—Continued

Item	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (y=percent; t=year; 1960=1)[1]	Index of determination	Standard error	Adjusted equation[2]	
Women, public 4-year institutions[42]			$y'=11.81+0.62t$	0.95	0.49	$y'=11.07+0.65t$	
Men, private 4-year institutions[42]			$y'=9/\left[1-e^{-(1.007+0.056t)}\right]$	.90	.066	$y'=9/\left[1-e^{-(1.053+0.054t)}\right]$	
Women, private 4-year institutions[42]			$y'=9.778-0.052t$	.42	.214	$y'=9.886-0.057t$	
Men, public 2-year institutions[42]			$y'=30/\left[1+e^{(1.24-0.14t)}\right]$	.92	.15	$y'=30/\left[1+e^{(1.03-0.13t)}\right]$	
Women, public 2-year institutions[42]			$y'=30/\left[1+e^{(1.82-0.13t)}\right]$	.94	.12	$y'=30/\left[1+e^{(1.48-0.12t)}\right]$	
Men, private 2-year institutions[43]		1.30					
Women, private 2-year institutions[43]		1.40					
Full-time first-time degree-credit fall enrollment[44]	14-16						
Men, public 4-year institutions		89.9					
Women, public 4-year institutions		88.3					
Men, private 4-year institutions		90.0					
Women, private 4-year institutions		91.5					
Men, public 2-year institutions		66.0					
Women, public 2-year institutions		55.0					
Men, private 2-year institutions		89.0					
Women, private 2-year institutions		88.5					
Graduate fall enrollment (4-year institutions)	17						
Men, public institutions[45]			$y'=25/\left[1+e^{(0.020-0.044t)}\right]$	.88	.058	$y'=25/\left[1+e^{(0.136-0.050t)}\right]$	
Women, public institutions[45]			$y'=20/\left[1+e^{(0.442-0.094t)}\right]$	.99	.025	$y'=20/\left[1+e^{(0.416-0.093t)}\right]$	
Men, private institutions[46]		16.2					
Women, private institutions[46]		12.1					

See footnotes at end of table.

Table A-1.—Methodology (Chapter II)—Continued

Item	Text table number	Projection method					
			Trend				
		Constant	Least squares equation (y=percent; t=year; 1960=1)[1]	Index of determination	Standard error	Adjusted equation[2]	Other
Full-time graduate fall enrollment (4-year institutions)	17						
Men, public institutions[47]		47.0					
Women, public institutions[47]		34.1					
Men, private institutions[48]			$y' = 50/\left[1+e^{-(0.55+0.15t)}\right]$	0.98	0.073	$y' = 50/\left[1+e^{-(0.47+0.15t)}\right]$	
Women, private institutions[48]			$y' = 45/\left[1+e^{-(0.056+0.139t)}\right]$	.91	.173	$y' = 45/\left[1+e^{(0.135-0.149t)}\right]$	
Full-time undergraduate and first-professional degree-credit fall enrollment (4-year institutions)	19						
Men, public institutions[49]			$y' = 70/\left[1-e^{-(1.630+0.038t)}\right]$	.98	.027	$y' = 70/\left[1-e^{-(1.865-0.038t)}\right]$	
Women, public institutions[49]			$y' = 65/\left[1-e^{-(1.429+0.047t)}\right]$	.97	.044	$y' = 65/\left[1-e^{-(1.678+0.049t)}\right]$	
Men, private institutions[50]		79.7					
Women, private institutions[50]		79.8					
Full-time undergraduate degree-credit fall enrollment (2-year institutions)	8						
Men, public institutions[51]		56.5					
Women, public institutions[51]		44.9					
Men, private institutions[51]		79.4					
Women, private institutions[52]			$y' = 75/\left[1-e^{-(1.710+0.055t)}\right]$	.88	.102	$y' = 75/\left[1-e^{-(2.130+0.049t)}\right]$	

See footnotes at end of table.

[1] If a computer is not available, tables of exponential functions, which are found in most books of mathematical tables, may be used to simplify computations of projected values from logistic growth curves.

[2] Adjusted by relocating curve through last observed point and 1980 point of fitted curve.

[3] First observation is for 1964.

[4] Total public kindergarten and nursery school enrollment less kindergarten enrollment in regular public day schools.

[5] y = percent 3-year-olds enrolled in public kindergarten and nursery schools is of population aged 3 years.

[6] y = percent 4-year-olds enrolled in public kindergarten and nursery schools is of population aged 4 years.

[7] y = percent 5-year-olds enrolled in public kindergarten and nursery schools is of population aged 5 years.

[8] Constant = percent in 1970 that 6-year-olds enrolled in public kindergarten and nursery schools is of population aged 6 years.

[9] Total nonpublic kindergarten and nursery school enrollment less kindergarten enrollment in regular nonpublic day schools.

[10] y = percent 3-year-olds enrolled in private kindergarten and nursery schools is of population aged 3 years.

[11] y = percent 4-year-olds enrolled in private kindergarten and nursery schools is of population aged 4 years.

[12] Constant = percent in 1970 that 5-year-olds enrolled in private kindergarten and nursery schools is of population aged 5 years.

[13] Constant = enrollment of 6-year-olds in private kindergarten and nursery schools in 1970.

[14] y = percent kindergarten enrollment is of population aged 5 years.

[15] Constant = percent in 1970 that 1st-grade enrollment is of population aged 6 years.

[16] Constant = percent in 1970 that grade 2 is of grade 1 in preceding year.

[17] Constant = percent in 1970 that grade 3 is of grade 2 in preceding year.

[18] Constant = percent grade 4 in 1970 is of grade 3 in preceding year.

[19] Constant = percent grade 5 in 1970 is of grade 4 in preceding year.

[20] Constant = percent grade 6 in 1970 is of grade 5 in preceding year.

[21] y_7 (t) = enrollment in grade 7 in year t; y_6 (t-1) = enrollment in grade 6 in year t-1; C (t-1) = enrollment in grades K-8 of Catholic schools in year t-1. For projections of enrollments in grades K-8 of Catholic schools, see footnote 6, part 5, table 3.

[22] Constant = percent grade 8 in 1970 is of grade 7 in preceding year.

[23] y_9 (t) = enrollment in grade 9 in year t; y_8 (t-1) = enrollment in grade 8 in year t-1; C (t-1) = enrollment in grades K-8 of Catholic schools on year t-1. For projections of enrollment in grades K-8 of Catholic schools, see footnote 6, part 5, table 3.

[24] Constant = percent grade 10 in 1970 is of grade 9 in preceding year.

[25] Constant = percent grade 11 in 1970 is of grade 10 in preceding year.

[26] Constant = percent grade 12 in 1970 is of grade 11 in preceding year.

[27] y = percent elementary ungraded enrollment is of population aged 5 to 13.

[28] y = percent secondary ungraded enrollment is of population aged 14 to 17.

[29] y = percent postgraduate enrollment is of population aged 18 at nearest birthday.

[30] y = percent 7th and 8th grades organized as secondary are of total 7th and 8th grades.

[31] Approximations based on the assumption that the number of enrollments in grades K-8 in nonpublic schools will continue to decrease to 1980.

[32] Approximations based on the assumption that the number of enrollments in grades 9-12 in nonpublic schools will remain at the 1968 level through 1980.

[33] y = percent opening fall degree-credit enrollment is of population aged 18-21.

[34] Constant = 1970 percent that opening fall degree-credit enrollment was of the population aged 18-21 years.

[35] y = percent that opening fall non-degree-credit enrollment is of population aged 18-21 years.

[36] Not applicable, exponential smoothing was used to determine the projected straight line. The smoothing constant $\alpha = 0.625$ and the mean absolute deviation (MAD) = 0.040.

[37] Constant = percent in 1970 that opening fall non-degree-credit enrollment was of population aged 18-21 years.

[38] Constant = approximate opening fall non-degree-credit enrollment in 1970.

[39] Constant = percent in 1970 that full-time non-degree-credit enrollment was of total non-degree-credit enrollment.

[40] Constant = percent that full-time equivalent of part-time degree-credit enrollment was of part-time degree-credit enrollment in the 1964 full-time-equivalent enrollment and credit-hours survey (percent same in publicly and privately controlled institutions).

[41] Constant = percent full-time equivalent of part-time non-degree-credit enrollment was of part-time non-degree-credit enrollment in the 1964 full-time-equivalent enrollment and credit-hours survey (percent same in publicly and privately controlled institutions).

[42] y = percent that first-time opening fall degree-credit enrollment is of population aged 18 at nearest birthday.

[43] Constant = percent that first-time opening fall degree-credit enrollment was of population aged 18 at nearest birthday in 1970.

[44] Constant = percent in 1970 that full-time first-time degree-credit opening fall enrollment was of total first-time degree-credit opening fall enrollment.

[45] y = percent that estimated resident graduate degree-credit enrollment is of total resident and extension degree-credit enrollment.

[46] Constant = percent that estimated resident graduate degree-credit enrollment was of total resident and extension degree-credit enrollment in 1970.

[47] Constant = percent in 1970 that full-time graduate enrollment was of total graduate enrollment.

[48] y = percent that full-time graduate enrollment is of total graduate enrollment.

[49] y = percent that full-time undergraduate and first-professional degree-credit enrollment is of total undergraduate and first-professional degree-credit enrollment.

[50] Constant = percent in 1970 that full-time undergraduate and first professional degree-credit enrollment was of total undergraduate and first-professional degree-credit enrollment.

[51] Constant = percent in 1970 that full-time opening fall degree-credit enrollment was of total opening fall degree-credit enrollment.

[52] y = percent that full-time opening fall degree-credit enrollment is of total opening fall degree-credit enrollment.

Table A-2.—Methodology (Chapter III)

Item	Text table number	Projection method					
		Constant (percent)	Trend				Other
			Least squares equation (y=percent; t=year; 1959-60=1)[1]	Index of determination	Standard error	Adjusted equation[2]	
High school graduates	19						
Public[3]							
Men			$y'=80/\left[1+e^{-(0.723+0.091t)}\right]$	0.88	0.120	$y'=80/\left[1+e^{-(0.464+0.104t)}\right]$	
Women			$y'=80/\left[1+e^{-(0.961+0.092t)}\right]$	.88	.120	$y'=80/\left[1+e^{-(0.782+0.102t)}\right]$	
Nonpublic[4]		[5] 48.1					
Bachelor's and first-professional degrees conferred on men[6]	20	56.2	$y'=50/\left[1+e^{(0.347-0.048t)}\right]$	.91	.070	$y'=50/\left[1+e^{(0.407-0.051t)}\right]$	
Selected fields	21						
Mathematics and statistics[7]		3.8					
Engineering[8]			$y'=5/\left[1-e^{-(0.359+0.040t)}\right]$	.99	.017	$y'=5/\left[1-e^{-(0.341+0.041t)}\right]$	
Physical sciences[8]			$y'=2.5/\left[1-e^{-(0.521+0.041t)}\right]$	.93	.040	$y'=2.5/\left[1-e^{-(0.690+0.033t)}\right]$	
Biological sciences[7]		5.50					
Agriculture, forestry[7]		2.50					
Health professions							(9)
Science, general program[8]			$y'=0.25/\left[1-e^{-(0.403+0.031t)}\right]$	.75	.062	$y'=0.25/\left[1-e^{-(0.545+0.024t)}\right]$	
Fine arts[8]			$y'=3.853+0.082t$	.73	.173	$y'=4.420+0.056t$	
English and journalism[7]		4.50					
Foreign languages[7]		1.10					
Psychology[8]			$y'=8/\left[1+e^{(1.32-0.12t)}\right]$	0.997	.025	$y'=8/\left[1+e^{(1.37-0.12t)}\right]$	
Social sciences[8]			$y'=30/\left[1+e^{(0.211-0.097t)}\right]$	.98	.046	$y'=30/\left[1+e^{(0.408-0.106t)}\right]$	
Education[8]			$y'=4/\left[1-e^{-(0.688+0.028t)}\right]$	.85	.041	$y'=4/\left[1-e^{-(0.517+0.037t)}\right]$	
Library science[7]		.02					
Social work[7]		.20					

See footnotes at end of table.

Table A-2.—Methodology (Chapter II)—Continued

Item	Text table number	Projection method					
			Trend				
		Constant (percent)	Least squares equation (y=percent; t=year; 1959-60=1)[1]	Index of determination	Standard error	Adjusted equation[2]	Other
Business and commerce							
Accounting[7]		4.00					
Other business and commerce[7]		16.00					
Other[8]			$y'=5/\left[1-e^{-(0.617+0.018t)}\right]$	0.79	0.033	$y'=5/\left[1-e^{-(0.756+0.011t)}\right]$	
Bachelor's and first-professional degrees conferred on women[6]	20	54.5	$y'=50/\left[1+e^{(1.257-0.074t)}\right]$	.99	.025	$y'=50/\left[1+e^{(1.213-0.073t)}\right]$	
Selected fields	22						
Mathematics and statistics[7]		3.00					
Engineering[7]		.10					
Physical sciences[8]			$y'=.4/\left[1-e^{-(0.259+0.032t)}\right]$	.97	.020	$y'=.4/\left[1-e^{-(0.318+0.029t)}\right]$	
Biological sciences[7]		3.00					
Agriculture, forestry[8]			$y'=0.0329+0.0085t$	.72	.0182	$y'=0.0835+0.0060t$	
Health professions							(9)
Science, general program[8]			$y'=0.3538-0.0070t$	.54	.0225	$y'=0.2975-0.0043t$	
Fine arts[8]			$y'=12/\left[1+e^{-(0.622+0.047t)}\right]$	.61	.130	$y'=12/\left[1+e^{-(0.893+0.034t)}\right]$	
English and journalism[7]		11.70					
Foreign languages[7]		4.50					
Psychology[8]			$y'=8/\left[1+e^{(1.090-0.100t)}\right]$	.94	.091	$y'=8/\left[1+e^{(0.838-0.088t)}\right]$	
Social sciences[8]			$y'=25/\left[1+e^{(0.460-0.099t)}\right]$	.97	.056	$y'=25/\left[1+e^{(0.592-0.106t)}\right]$	
Education			$y'=20/\left[1-e^{-(0.636+0.048t)}\right]$	.94	.043	$y'=20/\left[1-e^{-(0.605+0.050t)}\right]$	
Library science[7]		.28					
Social work[8]			$y'=-0.18+0.10t$	.99	.021	$y'=-0.20+0.10t$	

See footnotes at end of table.

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Table A-2.—Methodology (Chapter III)—Continued

Item	Text table number	Projected method					
			Trend				
		Constant (percent)	Least squares equation (y=percent; t=year; 1959-60=1)[1]	Index of determination	Standard error	Adjusted equation[2]	Other
Business and commerce							
Accounting[8]	......	......	$y'=0.281+0.020t$	0.85	.029	$y'=0.370+0.016t$	
Other business and commerce[7]	......	3.90					
Other[7]	......	6.50					
Master's degrees conferred on men[10]	20	43.7	$y'=12/\left[1+e^{(0.52-0.12t)}\right]$	.93	.13	$y'=12/\left[1+e^{(1.12-0.15t)}\right]$	
Selected fields	23						
Mathematics and statistics[11]	......	43.0, 4.40					
Engineering[12]	......	44.0	$y'=8/\left[1-e^{-(0.649+0.033t)}\right]$	.66	.092	$y'=8/\left[1-e^{-(0.881+0.023t)}\right]$	
Physical sciences[12]	......	35.0	$y'=2.5/\left[1-e^{-(0.375+0.051t)}\right]$	.89	.067	$y'=2.5/\left[1-e^{-(0.528+0.044t)}\right]$	
Biological sciences[11]	......	37.0, 3.20					
Agriculture, forestry[12]	......	65.0	$y'=1/\left[1-e^{-(0.341+0.042t)}\right]$	.93	.044	$y'=1/\left[1-e^{-(0.290+0.044t)}\right]$	
Health professions[11]	......	60.0, 1.70					
Science, general program[13]	......	0.55					
Fine arts[11]	......	76.0, 5.70					
English and journalism[11]	......	46.0, 3.10					
Foreign languages[11]	......	50.0, 1.50					
Psychology[11]	......	36.0, 2.20					
Social sciences[12]	......	45.0	$y'=15/\left[1+e^{-(0.558+0.052t)}\right]$	.75	.113	$y'=15/\left[1+e^{-(0.431+0.058t)}\right]$	
Education[12]	......	44.5	$y'=15/\left[1-e^{-(0.606+0.030t)}\right]$	.76	.065	$y'=15/\left[1-e^{-(0.446+0.037t)}\right]$	
Library science[11]	......	75.0, 0.90					
Social work[11]	......	42.0, 1.70					

See footnotes at end of table.

Table A-2.—Methodology (Chapter III)—Continued

Item	Text table number	Projection method					
		Constant (percent)	Trend				Other
			Least squares equation (y=percent; t=year; 1959-60=1)[1]	Index of determination	Standard error	Adjusted equation[2]	
Business and commerce							
Accounting[11]		37.0, 0.70					
Other business and commerce[12]		43.0	$y'=30/\left[1+e^{(1.33-0.13t)}\right]$	0.90	0.17	$y'=30/\left[1+e^{(1.19-0.13t)}\right]$	
Other[13]		3.70					
Master's degrees conferred on women[10]	20	44.0	$y'=10/\left[1+e^{(1.45-0.13t)}\right]$	.96	.11	$y'=10/\left[1+e^{(1.62-0.14t)}\right]$	
Selected fields	23						
Mathematics and statistics[11]		42.0, 2.18					
Engineering[12]		35.0	$y'=1/\left[1+e^{(2.212-0.066t)}\right]$	.70	.165	$y'=1/\left[1+e^{(1.879-0.051t)}\right]$	
Physical sciences[11]		35.0, 0.95					
Biological sciences[12]		38.0	$y'=2.576-0.021t$	([14])	([14])		
Agriculture, forestry[12]		53.0	$y'=1/\left[1+e^{(2.251-0.062t)}\right]$	.59	.196	$y'=1/\left[1+e^{(2.123-0.056t)}\right]$	
Health professions[11]		64.0, 2.90					
Science, general program[13]		0.30					
Fine arts[11]		72.0, 7.30					
English and journalism[11]		43.0, 6.40					
Foreign languages[11]		50.0, 3.75					
Psychology[11]		37.0, 2.00					
Social sciences[11]		40.0, 6.00					
Education[11]		39.0, 48.00					
Library science[11]		78.0, 6.50					
Social work[12]		65.0	$y'=2/\left[1-e^{-(0.505+0.034t)}\right]$	.93	.019	$y'=2/\left[1-e^{-(0.516+0.033t)}\right]$	

See footnotes at end of table.

Table A-2.—Methodology (Chapter III)—Continued

Item	Text table number	Projection method					
		Constant (percent)	Trend				Other
			Least squares equation (y=percent; t=year; 1959-60=1)[1]	Index of determination	Standard error	Adjusted equation[2]	
Business and commerce							
Accounting[11]		35.0, 0.10					
Other business and commerce[11]		70.0, 2.20					
Other[13]		4.00					
Doctor's (except first-professional) degrees conferred on men[15]	20	11.65	$y'=5/\left[1+e^{(1.632-0.094t)}\right]$	0.95	0.102	$y'=5/\left[1+e^{(2.120-0.113t)}\right]$	
Selected fields	24						
Mathematics and statistics[16]		12.7, 4.80					
Engineering[17]		11.75	$y'=16.19-0.38t$	(18)	(18)		
Physical sciences[17]		28.0	$y'=7/\left[1-e^{-(0.314+0.031t)}\right]$	.84	.066	$y'=7/\left[1-e^{-(0.678+0.017t)}\right]$	
Biological sciences[17]		29.0	$y'=8/\left[1-e^{-(0.992+0.047t)}\right]$	.63	.176	$y'=8/\left[1-e^{-(1.477+0.028t)}\right]$	
Agriculture, forestry[16]		29.0, 3.00					
Health professions[16]		10.5, 1.15					
Science, general program[19]		0.10					
Fine arts[16]		12.2, 3.50					
English and journalism[17]		11.0	$y'=2/\left[1-e^{-(0.671+0.028t)}\right]$	0.62	.107	$y'=2/\left[1-e^{-(1.095+0.012t)}\right]$	
Foreign languages[16]		16.8, 1.88					
Psychology[16]		22.4, 5.00					

See footnotes at end of table.

Table A-2.—Methodology (Chapter III)—Continued

Item	Text table number	Projection method					
			Trend				
		Constant (percent)	Least squares equation (y=percent; t=year; 1959-60=1)[1]	Index of determination	Standard error	Adjusted equation[3]	Other
Social sciences[16]		12.9, 12.00					
Education[20]			$y'_1=5.10+0.30t$	(21)	(21)		
			$y'_2=31/\left[1+e^{(0.599-0.077t)}\right]$	0.83	0.173	$y'_2=31/\left[1+e^{(0.297-0.065t)}\right]$	
Library science[16]		1.8, 0.08					
Social work[16]		2.5, 0.24					
Business and commerce							
Accounting[16]		1.8, 0.13					
Other business and commerce[17]		1.9	$y'=4/\left[1+e^{(0.319-0.068t)}\right]$	.84	.145	$y'=4/\left[1+e^{-(0.144+0.050t)}\right]$	
Other[22]			$y'=2/\left[1-e^{-(0.488+0.040t)}\right]$	.88	.053	$y'=2/\left[1-e^{-(0.419+0.043t)}\right]$	
Doctor's (except first-professional) degrees conferred on women[15]	20	3.5	$y'=0.043+0.023t$	.98	.017	$y'=0.092+0.020t$	
Selected fields	24						
Mathematics and statistics[16]		3.6, 2.30					
Engineering[17]		10.0	$y'=1.5/\left[1+e^{(1.078-0.083t)}\right]$	.50	.288	$y'=1.5/\left[1+e^{(0.396-0.051t)}\right]$	
Physical sciences[17]		14.2	$y'=4/\left[1-e^{-(0.662+0.058t)}\right]$	.68	.194	$y'=4/\left[1-e^{-(1.158+0.039t)}\right]$	
Biological sciences[17]		15.0	$y'=15.58-0.32t$	(23)	(23)	$y'=16.07-0.35t$	
Agriculture, forestry[17]		25.0	$y'=1.5/\left[1+e^{(1.17-0.16t)}\right]$	.53	.53	$y'=1.5/\left[1+e^{(0.24-0.12t)}\right]$	
Health professions[16]		3.0, 1.75					
Science, general program[19]		.05					

See footnotes at end of table.

Table A-2.—Methodology (Chapter III)—Continued

Item	Text table number	Projection method					
		Constant (percent)	Trend				Other
			Least squares equation (y=percent; t=year; 1959-60=1)[1]	Index of determination	Standard error	Adjusted equation[2]	
Fine arts[1 6]		3.6, 4.60					
English and journalism[1 6]		4.3, 8.00					
Foreign languages[1 6]		7.2, 6.80					
Psychology[1 6]		15.0, 10.50					
Social sciences[1 6]		5.3, 10.00					
Education[1 7]		2.00	$y'=40/\left[1+e^{-(0.256+0.101t)}\right]$	0.92	0.106	$y'=40/\left[1+e^{-(0.376+0.095t)}\right]$	
Library science[1 6]		0.3, 0.30					
Social work[1 6]		1.0, 0.80					
Business and commerce							
Accounting[1 6]		2.5, 0.08					
Other business and commerce[1 6]		2.9, 1.10					
Other[3 2]			$y'=3.5/\left[1-e^{-(0.49+0.10t)}\right]$	.76	.20	$y'=3.5/\left[1-e^{-(0.54+0.10t)}\right]$	

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[1] If a computer is not available, tables of exponential functions, which are found in most books of mathematical tables, may be used to simplify the computation of a projected value from a logistic growth curve.

[2] Adjusted by relocating curve through last observed point and 1980-81 point of fitted curve.

[3] y = percent that public high school graduates are of population averaging 18 years of age for men and women separately.

[4] Assumes approximately no change in number of nonpublic high school graduates through 1981.

[5] Constant = percent that boys were of nonpublic high school graduates in 1964-65.

[6] Constant = percent that bachelor's and first-professional degrees in 1969-70 were of first-time degree-credit en ment 4 years earlier. This constant was used to determine the 1970-71 to 1973-74 projections. y = percent that bachelor's and first-professional degrees are of the composite population. The extrapolated percentages were used to determine the 1974-75 to 1980-81 projections.

[7] Constant = percent in 1969-70 that bachelor's and first-professional degrees in this field were of all bachelor's and first-professional degrees.

[8] y = percent that bachelor's and first-professional degrees in these selected fields are of all bachelor's and first-professional degrees.

[9] Based on projections by the Bureau of Health Manpower Education, National Institutes of Health. Projections of first-professional degrees in medicine, osteopathy, dentistry, optometry, pharmacy, and veterinary medicine are based on output resulting from support in pending legislation.

[10] Constant = percent that master's degrees in 1969-70 were of the average 1st-year enrollment for advanced degrees, 1 and 2 years earlier. This constant was used to determine the 1970-71 projection. y = percent that master's degrees are of the composite population, 2 years earlier. The extrapolated percentages were used to determine the 1971-72 to 1980-81 projections.

[11] First constant = percent that master's degrees in this field in 1969-70 were of the average 1st-year enrollment for advanced degrees in the same field, 1 and 2 years earlier. This constant was used to determine the 1970-71 projection.
Second constant = percent that the 1970-71 projection of master's degrees in this field are of the 1970-71 projection of total master's degrees. This constant was used to determine the 1971-72 to 1980-81 projections.

[12] Constant = percent that master's degrees in this field in 1969-70 were of the average 1st-year enrollment for advanced degrees in the same field, 1 and 2 years earlier. This constant was used to determine the 1970-71 projection.
y = percent that master's degrees in this field are of all master's degrees. The extrapolated percentages were used to determine the 1971-72 to 1980-81 projections.

[13] Constant = percent in 1969-70 that master's degrees in the field were of all master's degrees in 1969-70.

[14] Not applicable, exponential smoothing was used to determine the projected straight line. The smoothing constant $\alpha = 0.25$, and the mean absolute deviation (MAD) = 0.17.

[15] Constant = percent that doctor's degrees in 1969-70 were of the average 1st-year enrollment for advanced degrees, 5 and 6 years earlier. This constant was used to determine the 1970-71 to 1974-75 projections. y = percent that doctor's degrees are of the composite population, 5 years earlier. The extrapolated percentages from this curve were used to determine the 1975-76 to 1980-81 projections.

[16] First constant = percent that doctor's degrees in this field in 1969-70 were of the average 1st-year enrollment for advanced degrees in the same field, 5 and 6 years earlier. This constant was used to determine the 1970-71 to 1974-75 projections. Second constant = percent that the 1974-75 projection of doctor's degrees in this field are of the 1974-75 projection of total doctor's degrees. This constant was used to determine the 1975-76 to 1980-81 projections.

[17] Constant = percent that doctor's degrees in this field in 1969-70 were of the average 1st-year enrollment for advanced degrees in the same field, 5 and 6 years earlier. This constant was used to determine the 1970-71 to 1974-75 projections. y = percent that doctor's degrees in this field are of all doctor's degrees. The extrapolated percentages were used to determine the 1975-76 to 1980-81 projections.

[18] Not applicable, exponential smoothing was used to determine the projected straight line. The smoothing constant $\alpha = 0.38$, and the mean absolute deviation (MAD) = 0.54.

[19] Constant = percent in 1969-70 that doctor's degrees in this field were of all doctor's degrees.

[20] y = percent that doctor's degrees in this field are of the average 1st-year enrollment for advanced degrees in the same field 5 and 6 years earlier. The extrapolated percentages were used to determine the 1970-71 to 1974-75 projections. y_2 = percent that doctor's degrees in the field are of all doctor's degrees. The extrapolated percentages were used to determine the 1975-76 to 1980-81 projections.

[21] Not applicable since the equation was determined arbitrarily.

[22] y = percent that doctor's degrees in this field are of all doctor's degrees.

[23] Not applicable, exponential smoothing was used to determine the projected straight line. The smoothing constant $\alpha = 0.49$, and the mean absolute deviation (MAD) = 0.50.

Table A-3.—Methodology (Chapter IV)

Item	Text table number	Projection method					
			Trend				
		Constant (percent)	Least squares equation (y=percent; t=year; 1960=1)[1]	Index of determination	Standard error	Adjusted equation[2]	Other
Classroom teachers in regular day schools	26						
Public elementary							(3)
Public secondary							(3)
Nonpublic elementary							(3)
Nonpublic secondary							(3)
Pupil-teacher ratios in regular elementary and secondary day schools	27						
Public elementary[4]			$y'=20/\left[1\text{-}e^{-(1.061+0.052t)}\right]$	0.86	.073	$y'=20/\left[1\text{-}e^{-(1.284+0.041)}\right]$	
Public secondary[4]			$y'=18/\left[1\text{-}e^{-(1.605+0.068t)}\right]$	.91	.075	$y'=18/\left[1\text{-}e^{-(1.712+0.062t)}\right]$	
Nonpublic elementary[4]			$y'=20/\left[1\text{-}e^{-(0.729+0.057t)}\right]$	.80	.102	$y'=20/\left[1\text{-}e^{-(1.247+0.030t)}\right]$	
Nonpublic secondary[5]		16.0					
Demand for classroom teachers in public regular day schools	28						
For enrollment increase							(6)
For teacher turnover[7]		8.0					
For reduction of pupil-teacher ratio							(8)
Demand for classroom teachers in nonpublic regular day schools	29						
For enrollment increase							(6)

See footnotes at end of table.

Table A-3.–Methodology (Chapter IV)–Continued

Item	Text table number	Projection method					
		Constant (percent)	Trend				Other
			Least squares equation (y=percent; t=year; 1960=1)[1]	Index of determination	Standard error	Adjusted equation[2]	
For teacher turnover[9]		4.0					
For reduction of pupil-teacher ratio							(8)
Instructional staff in regular elementary and secondary day schools	30						
Public[10]			$y'=120/\left[1+e^{-(2.114+0.047t)}\right]$	0.90	0.058	$y'=120/\left[1+e^{-(2.379+0.042t)}\right]$	
Nonpublic							(11)
Total instructional staff for resident courses	31						
Public 4-year institutions[12]		14.6					
Private 4-year institutions[13]			$y'=9/\left[1-e^{-(1.529+0.035t)}\right]$	.995	.135	$y'=9/\left[1-e^{-(1.969+0.017t)}\right]$	
Public 2-year institutions[12]		23.0					
Private 2-year institutions[13]			$y'=12/\left[1-e^{-(1.169+0.038t)}\right]$	.99	.158	$y'=12/\left[1-e^{-(1.512+0.025t)}\right]$	
Instructor or above[14]		81.7					
Full-time[15]		78.0					
Junior instructional staff[16]		18.3					
Full-time[17]		17.0					
Full-time-equivalent instructional staff for resident courses	32						

See footnotes at end of table.

Table A-3.—Methodology (Chapter IV)—Continued

Item	Text table number	Projection method					
			Trend				
		Constant (percent)	Least squares equation (y=percent; t=year; 1960=1)[1]	Index of determination	Standard error	Adjusted equation[2]	Other
Full-time-equivalent of part time:							
Instructor or above[18]		35.0					
Junior instructional staff[19]		41.0					
Total demand for estimated full-time-equivalent instructional staff in institutions of higher education	33						
Demand for additional instructional staff:							
For increased enrollment and changes of student staff ratio							(20)
For replacement[21]		6.0					

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[1] If a computer is not available, tables of exponential functions, which are found in most books of mathematical tables, may be used to simplify computations of projected values from logistic growth curves.

[2] Adjusted by relocating curve through last observed point and 1980 point on fitted curve.

[3] Projected enrollment (table 3) divided by projected pupil-teacher ratio (table 27) calculated separately for each type of school by control and level.

[4] y = ratio of number of pupils to number of teachers.

[5] Constant = estimated 1970 ratio of number of pupils to number of teachers.

[6] Total teacher demand in a given year less total teacher demand in the previous year less the number of teachers needed for pupil-teacher ratio changes.

[7] 8 percent of total teacher demand in each previous year.

[8] The enrollment divided by the pupil-teacher ratio of a given year less the same enrollment divided by the pupil-teacher ratio of the previous year.

[9] 4 percent of total teacher demand in each previous year.

[10] y = ratio of instructional staff to classroom teachers (staff-teacher ratio times projected classroom teachers = projected instructional staff; 1959 = 1).

[11] Number of instructional staff assumed same as number of classroom teachers.

[12] Constant = 1968 ratio of enrollment to instructional staff for resident courses.

[13] y = ratio of enrollment to instructional staff for resident courses.

[14] Constant = percent instructor or above was of the entire instructional staff in 1968.

[15] Constant = percent full-time instructor or above was of total instructor or above in 1968.

[16] Constant = percent junior instructional staff was of the entire instructional staff in 1968.

[17] Constant = percent full-time junior instructional staff was of total junior instructional staff in 1967.

[18] Constant = percent full-time equivalent of part-time instructor or above was of part-time instructor or above in 1968 in all institutions.

[19] Constant = percent full-time-equivalent junior instructional staff was of part-time junior instructional staff in 1968 in all institutions.

[20] Increase in total full-time equivalents employed over each previous year.

[21] Constant = 6 percent of total full-time equivalents employed in previous year.

NOTE.–Sources of data and assumptions on which projections were based are given in text table footnotes.

Table A-4.—Methodology (Chapter V)

Item	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (t=years; 1960-61=1)	Index of determination	Standard error	Adjusted equation	
Expenditures for education by elementary and secondary day schools	34, 35						
Current expenditures:							
Public							(1)
Nonpublic							(2)
Capital outlay:							
Public							(3)
Nonpublic							(4)
Interest:							
Public							(5)
Nonpublic							(6)
Expenditures for education by institutions of higher education	34, 35						
Current expenditures:							
Public							(7)
Nonpublic							(7)
Capital outlay:							
Public							(8)
Nonpublic							(8)
Current expenditures of public school systems	36						
Average daily attendance		[9] 92.5 & 92.6					
Current expenditure allocated to pupil costs (excluding effects of 1965 legislation):[10]							
Per pupil in average daily attendance							
Total			$y'=\$509.10+21.10(t)$[11]	0.99	\$1.54	$y'=\$509.62+21.08(t)$	(12)

See footnotes at end of table.

Table A-4.–Methodology (Chapter V)–Continued

Item	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (t=years; 1960-61=1)	Index of determination	Standard error	Adjusted equation	
Current expenditure allocated to pupil costs (including effects of 1965 legislation):[10]							
Per pupil in average daily attendance							([13])
Total							([14])
Current expenditures for all programs (excluding effects of 1965 legislation):[10]		[15] 104					
Current expenditures for all programs (including effects of 1965 legislation):[10]		[16] 104					
Expenditures for salaries of instructional staff in public elementary and secondary day schools	37						
Average annual salary (including effects of 1965 legislation):[10]							
Total salary			$y'=\$7,112.93+\$227.98(t)$[17]	0.97	$137	$y'=\$7,006.40+\$233.05(t)$	([18])
Construction of public elementary and secondary school classrooms and capital outlay	38						
Number of rooms completed		65,000	$y'=69,514-27(t)$[19]	.00038	4,149	$y'=59,575+469(t)$	
Capital outlay (school year):							
Total							([20])
Expenditures for interest by public elementary and secondary schools	39		$y'=\$664+\$59(t)$[21]	.97	$34	$y'=\$717+\$56(t)$	
Expenditures from current funds and total current fund expenditures by institutions of higher education	40, 41						

See footnotes at end of table.

Table A-4.—Methodology (Chapter V)—Continued

Item	Text table number	Projection method					Other
		Constant	Trend				
			Least squares equation (t=years; 1960-61=1)	Index of determination	Standard error	Adjusted equation	
Expenditures for educational and general purposes:							
Student education: (per student)							
Public			y'=$1,415.36+48.69(t)[22]	0.87	$68.91	y'=$1,493.81+45.12(t)	
Nonpublic			y'=$1,450.41+97.37(t)[23]	.98	$50.41	y'=$1,600.46+90.55(t)	
Organized research (000's dollars) including fed. funded R&D centers prior to 1968-69:							
Public			y'=$628,340+107,934(t)[24]	.99	$40,767	y'=530,140+112,398(t)	
Nonpublic			y'=$745,684+ 90,232(t)[25]	.74	$194,573	y'=267,836+111,952(t)	
Organized research (000's dollars) excluding fed. funded R&D centers beginning 1968-69:							
Public			y'=$420,330+ 93,143(t)[26]	.99	$27,330	y'=388,138+94,606(t)	
Nonpublic			y'=$448,806+ 69,118(t)[27]	.71	$160,608	y'= 65,212+86,554(t)	
Related activities (percent of student ed.) including major public service except fed. funded R&D centers prior to 1968-69:							
Public			y'=10.136-0.001(t)[28]	.0	0.593	y'=9.849+0.012(t)	
Nonpublic			y'= 8.605+0.101(t)[29]	.0	0.440	y'=9.611+0.055(t)	
Related activities (percent) excluding major public service items beginning 1968-69:							
Public		[30] 45.3281%					
Nonpublic		[31] 51.1018%					

See footnotes at end of table.

Table A-4.—Methodology (Chapter V)—Continued

Item	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (t=years; 1960-61=1)	Index of determination	Standard error	Adjusted equation	
Expenditures for auxiliary enterprises (percent of student ed.)							
Public			y'=28.886−0.530(t)[32]	0.38	2.462	y'=21.923−0.213(t)	
Nonpublic			y'=33.545−0.227(t)[33]	.08	2.755	y'=27.121+0.065(t)	
Expenditures for student aid (percent of student ed.)							
Public			y'=2.727+0.235(t)[34]	.80	0.419	y'=2.547+0.243(t)	
Nonpublic			y'=8.041+0.352(t)[35]	.97	0.233	y'=7.972+0.355(t)	
Expenditures for major public service:							
Federally funded R&D centers: 000's $							
Public			y'=$208,009+$14,792(t)[36]	.74	31,525	y'=142,002+17,792(t)	
Nonpublic			y'=$296,878+$21,114(t)[37]	.74	45,002	y'=202,625+25,398(t)	
Hospitals and "other" major public service:							
Public		[38] 54.6719%					
Nonpublic		[39] 48.8982%					
Capital outlay from current funds only (percent of total capital outlay):							
Public		[40] 16.0%					
Nonpublic		[40] 16.0%					
Capital outlay of institutions of higher ed.	42						
Public:							
Increased capacity		[41] $8,379					
Major replacement and rehabilitation		[42] 702					
Nonpublic:							
Increased capacity		[41] $23,540					
Major replacement and rehabilitation		[42] $2,409					

See footnotes at end of table.

[1] See method detailed for table 36 in footnotes 9 to 16 of this table (A-4).

[2] Ratio of nonpublic school teachers to public school teachers times public school current expenditures.

[3] See method detailed for table 38 in footnotes 19 and 20 of this table (A-4).

[4] Ratio of nonpublic school teachers to public school teachers times public school capital outlay.

[5] See method detailed for table 39 in footnote 21 of this table (A-4).

[6] Ratio of nonpublic school teachers to public school teachers times public school interest.

[7] See method detailed for table 39 in footnotes 22 to 31 of this table (A-4).

[8] See method detailed for table 42 in footnotes 33 and 34 of this table (A-4).

[9] Constant percent assumes that the percent that average daily attendance in public schools was of K-12 enrollment in public schools in 1970-71 (92.5) will continue through 1975-76 and will change to 92.6 for 1976-77 through 1980-81.

[10] The Elementary and Secondary Education Act of 1965.

[11] y = current expenditure allocated to pupil costs per pupil in average daily attendance.

[12] Average daily attendance times per pupil cost for each year.

[13] Current expenditure per pupil increased by $140 per pupil in average daily attendance.

[14] Average daily attendance times per pupil cost augmented by $140 per pupil.

[15] Percent that expenditures for all programs were of expenditures allocated to pupil costs in recent years. Constant percent times total current expenditures allocated to pupil costs (excluding effects of act) = current expenditures for all programs (excluding effects of act.)

[16] Percent that expenditures for all programs were of expenditures allocated to pupil costs in recent years. Constant percent times total current expenditures allocated to pupil costs (including effects of act) = current expenditures for all programs (including effects of act).

[17] y = average annual salary of instructional staff in public elementary and secondary schools.

[18] Average annual salary times number of instructional staff in public elementary and secondary schools in each year.

[19] y = number of rooms completed held constant at 65000: 1971-72 through 1980-81.

[20] Projected number of rooms completed (table 38) times capital outlay per room.

[21] y = annual expenditure for interest in public elementary and secondary schools.

[22] y = expenditures for student education per full-time-equivalent student in publicly controlled institutions of higher education.

[23] y = expenditures for student education per full-time-equivalent student in nonpublicly controlled institutions of higher education.

[24] y = total expenditures for organized research in publicly controlled institutions of higher education.

[25] y = total expenditures for organized research in nonpublicly controlled institutions of higher education.

[26] y = expenditures for organized research excluding expenditures for federally funded research and development centers in publicly controlled institutions of higher education.

[27] y = expenditures for organized research excluding expenditures for federally funded research and development centers in nonpublicly controlled institutions of higher education.

[28] y = expenditures for related activities as a percent of expenditures for student education in publicly controlled institutions of higher education.

[29] y = expenditures for related activities as a percent of expenditures for student education in nonpublicly controlled institutions of higher education.

[30] Constant percent = percent remaining in educational and general related activities of publicly controlled institutions of higher education beginning in 1968-69 after transfer of hospitals and "other" public service to separate item outside educational and general entitled major public service current expenditures.

[31] Constant percent = percent remaining in educational and general related activities of nonpublicly controlled institutions of higher education beginning in 1968-69 after transfer of hospitals and "other" public service to separate item outside educational and general entitled major public service current expenditures.

[32] y = expenditures for auxiliary enterprises as a percent of expenditures for student education in publicly controlled institutions of higher education.

[33] y = expenditures for auxiliary enterprises as a percent of expenditures for student education in nonpublicly controlled institutions of higher education.

[34] y = expenditures for student aid as a percent of expenditures for student education in publicly controlled institutions of higher education.

[35] y = expenditures for student aid as a percent of expenditures for student education in nonpublicly controlled institutions of higher education.

[36] y = expenditures for federally funded research and development centers by publicly controlled institutions of higher education.

[37] y = expenditures for federally funded research and development centers by nonpublicly controlled institutions of higher education.

[38] Constant percent = percentage removed from related activities under educational and general expenditures and designated as for hospitals and "other" items under major public service expenditures of publicly controlled institutions of higher education beginning in 1968-69.

[39] Constant percent = percentage removed from related activities under educational and general expenditures and designated as for hospitals and "other" items under major public service expenditures of nonpublicly controlled institutions of higher education beginning in 1968-69.

[40] Constant percent = estimated average capital outlay from current funds as percent of capital outlay from all sources.

[41] Constant 1970-71 dollars = 1967-68 capital outlay for increased capacity per adjusted additional full-time-equivalent student for 1967-68. Number of additional students each year adjusted by application of a 5-year moving average. Decreasing numbers of students given 50 percent weight. Minus numbers of additional students given zero weight.

[42] Constant 1970-71 dollars = 1967-68 capital outlay for major replacement and rehabilitation per adjusted additional full-time-equivalent student for 1967-68. Number of additional students each year adjusted by application of a 5-year moving average. Decreasing numbers of students given 50 percent weight. Minus numbers of additional students given zero weight.

Table A-5.–Methodology (Chapter VI)

Item	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (y=dollars; t=years; 1960-61=1)	Index of determination	Standard error	Adjusted equation	
Estimated average charges per full-time undergraduate resident degree-credit student in institutions of higher education (dollars)	43,44						
Tuition and required fees:[1]							
Public	.....	.....	$y'=\$280.52+\$6.91(t)$	0.907	6.453	$y'=\$269.16+\$7.50(t)$	
Universities	.....	.....	$y'=\$331.21+\$12.82(t)$	.847	15.909	$y'=\$308.22+\$13.97(t)$	
Other 4-year institutions	.....	.....	$y'=\$235.31+\$11.09(t)$	.911	10.088	$y'=\$216.95+\$12.01(t)$	
2-year institutions	.....	.....	$y'=\$100.40+\$9.44(t)$	.846	11.750	$y'=\$122.18+\$8.35(t)$	
Nonpublic	.....	.....	$y'=\$1,147.77+\$52.26(t)$	.974	24.700	$y'=\$1,104.62+\$54.42(t)$	
Universities	.....	.....	$y'=\$1,374.56+\$60.24(t)$	.969	31.431	$y'=\$1,320.49+\$62.94(t)$	
Other 4-year institutions	.....	.....	$y'=\$1,041.58+\$57.65(t)$	.983	22.083	$y'=\$1,015.32+\$58.96(t)$	
2-year institutions	.....	.....	$y'=\$673.04+\$52.32(t)$	.978	23.129	$y'=\$628.66+\$54.54(t)$	
Board:[2]							
Public	.....	.....	$y'=\$568.39-\$3.26(t)$	.803	4.716	$y'=\$564.60-\$3.08(t)$	
Universities	.....	.....	$y'=\$592.49-\$1.71(t)$	.108	14.321	$y'=\$572.75-\$0.72(t)$	
Other 4-year institutions	.....	.....	$y'=\$531.68-\$3.29(t)$	.441	10.823	$y'=\$551.14-\$4.27(t)$	
2-year institutions	.....	.....	$y'=\$463.69+\$0.91(t)$	.048	11.801	$y'=\$487.05-\$0.26(t)$	
Nonpublic	.....	.....	$y'=\$631.83-\$4.00(t)$	.801	5.806	$y'=\$623.78-\$3.60(t)$	
Universities	.....	.....	$y'=\$667.86-\$2.88(t)$	.559	7.464	$y'=\$654.86-\$2.23(t)$	
Other 4-year institutions	.....	.....	$y'=\$619.59-\$4.65(t)$	.819	6.359	$y'=\$613.90-\$4.36(t)$	
2-year institutions	.....	.....	$y'=\$552.29+\$5.18(t)$	.557	13.462	$y'=\$544.45+\$5.57(t)$	

See footnotes at end of table.

Table A-5.—Methodology (Chapter VI)—Continued

Item	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (y=dollars; t=years; 1960-61=1)	Index of determination	Standard error	Adjusted equation	
Room:[3]							
Public	.....	.....	$y'=\$297.74+\$9.94(t)$	.968	5.277	$y'=\$293.96+\$10.13(t)$	
Universities	.....	.....	$y'=\$323.18+\$10.21(t)$	.975	4.810	$y'=\$315.14+\$10.61(t)$	
Other 4-year institutions	.....	.....	$y'=\$256.04+\$12.32(t)$	.973	5.995	$y'=\$254.99+\$12.38(t)$	
2-year institutions	.....	.....	$y'=\$177.57+\$14.94(t)$	.931	11.866	$y'=\$199.07+\$13.87(t)$	
Nonpublic	.....	.....	$y'=\$374.71+\$11.32(t)$	.856	13.513	$y'=\$349.22+\$12.60(t)$	
Universities	.....	.....	$y'=\$438.92+\$12.85(t)$	.707	24.148	$y'=\$396.01+\$15.00(t)$	
Other 4-year institutions	.....	.....	$y'=\$342.13+\$11.68(t)$	.921	9.941	$y'=\$324.56+\$12.55(t)$	
2-year institutions	.....	.....	$y'=\$278.26+\$20.56(t)$	.924	17.182	$y'=\$265.37+\$21.20(t)$	

[1] y = average charge for tuition and required fees per full-time degree-credit student, calculated separately for each category by type and control of institution.

[2] y = average charge for board per full-time degree-credit student, calculated separately for each category by type and control of institution with t = 9 held constant to 1980-81 with the exception of nonpublic 2-year institutions.

[3] y = average charge for room per full-time degree-credit student, calculated separately for each category by type and control of institution.

Estimation Methods

General Statement

The basic data for projecting the educational components listed below were wholly or partially estimated for the years indicated. (A few items which were estimated and explained in the tables are not shown here.)

Unless otherwise specified, all educational components were estimated separately by type and control of institution and by sex and attendance status of student:

1. Degrees, bachelor's and master's—total, library science, social work—1958-59 to 1964-65 (tables 21-24).
2. Enrollment, first-time (tables 14-16)
    a. Degree-credit, 1966 and 1967
    b. Attendance status, 1959 to 1967
3. Enrollment, total (tables 6-11, 17-19)
    a. Graduate (resident), 1959 to 1963
    b. Graduate (resident), 1964 to 1966
    c. Undergraduate, 1959 to 1966
    d. Degree-credit, 1966
    e. Non-degree-credit, 1966
    f. Degree-credit, 1967
    g. Non-degree-credit, 1967
    h. Graduate (resident), 1967
    i. Undergraduate, 1967
    j. Graduate (resident), 1968
    k. Undergraduate, 1968
    m. Non-degree-credit attendance status, 1960 to 1967
4. Instructional staff in institutions of higher education (tables 31-33)
    a. Instructional staff persons, 1959, 1961, and 1963
    b. Full-time junior instructional staff, 1960-1965
    c. Full-time equivalent of part-time junior instructional staff, 1960-1965
    d. Full-time junior instructional staff, 1968
5. Population (composite), 1960 to 1980 (table B-2).

1. Degrees, bachelor's and master's—total library science, social work—1958-59 to 1964-65 (tables 21-24)

From 1958-59 to 1964-65, all master's degrees that were considered first-professional were reported as first-professional degrees. These were reported with bachelor's degrees in 1958-59 and 1959-60; the same degrees were reported separately as first-professional and later added to bachelor's degrees from 1960-61 to 1964-65. Most library science and social work master's degrees were in this category.

Beginning in 1965-66, all master's degrees whether or not they were considered first-professional were reported with master's degrees. In 1969, in order to obtain comparable series in these two fields as well as for total master's degrees and total bachelor's and first-professional degrees, degrees reported as first-professional degrees in library science and in social work between 1960-61 and 1964-65 were subtracted from bachelor's and first-professional degrees and added to master's degrees.

For the years 1958-59 and 1959-60, the percentages of total bachelor's and first-professional degrees in library science and in social work that were first-professional in 1960-61 were applied to total bachelor's and first-professional degrees in the corresponding fields in 1958-59 and 1959-60 to estimate the number of master's degrees. These master's degrees were then subtracted from bachelor's and first-professional degrees and added to master's degrees.

2. Enrollment, first-time (tables 14-16)

2a. Degree-credit, unreported in 1966 and 1967

To estimate resident and extension first-time opening fall enrollment by degree-credit status in both 1966 and 1967, percentages of resident and extension total enrollment by degree-credit status calculated from the unpublished 1966 comprehensive survey of enrollment (not available by sex) were applied to resident and extension first-time enrollment (combined degree-credit, non-degree-credit, men, women).

To estimate resident and extension degree-credit, first-time opening fall enrollment by sex in both 1966 and 1967, percentages of resident and extension degree-credit total enrollment by sex calculated from the 1965 opening fall enrollment survey were applied to estimated degree-credit first-time enrollment on men and women.

2b. Attendance status unreported 1960 to 1967

To estimate degree-credit first-time enrollment by attendance status in 1960 to 1967, percentages of degree-credit first-time enrollment by attendance status calculated from the 1959 and 1961 comprehensive surveys of enrollment and the 1968 opening fall enrollment survey, together with interpolations of these percentages for the years 1960 and 1962 to 1967, were applied to 1960 to 1967 degree-credit first-time enrollment (combined full-time and part-time).

3. Enrollment, total (tables 6-11, 17-19)

3a. Resident graduate, unreported 1960 to 1963

To estimated resident graduate opening fall enrollment from 1960 to 1963 in each control of institution and sex category, linear equations were fitted to the percentages that resident graduate enrollment were of resident and extension degree-credit enrollment calculated from the comprehensive enrollment surveys in 1957, 1959, 1961, and 1963. These estimated percentages were applied to resident and extension degree-credit opening fall enrollment in 1960 to 1963.

To estimate resident graduate opening fall enrollment by attendance status from 1960 to 1963 in each control of institution and sex category, use was made of diverse attendance status data from several sources: comprehensive enrollment survey, resident graduate enrollment, 1959 and 1961, undergraduate and first-professional 1957, 1959, 1961, undergraduate 1963; enrollment for advanced degrees (not by sex) 1960 to 1963; opening fall enrollment survey total degree-credit resident and extension 1962 and 1963. By balancing all of this information and by using interpolations and extrapolations, full-time resident graduate enrollment as a percentage of total resident graduate enrollment was estimated for 1960 to 1963 by control and sex categories. These percentages were applied to estimated resident graduate enrollment, 1960 to 1963, in each control of institution and sex of student category.

3b. Resident graduate, unreported 1964 to 1966

To estimate resident graduate opening fall enrollment from 1964 to 1966 in each control of institution and sex category, interpolations were made between the percentages that resident graduate enrollment was of resident and extension degree-credit enrollment in 4-year institutions in 1963 and 1967. These interpolated percentages were applied to resident and extension degree-credit enrollment in 1964, 1965, and 1966.

To estimate resident graduate opening fall enrollment by attendance status from 1964 to 1966 in each control of institution and sex category, interpolations were made between the percentages that full-time resident graduate enrollment was of total resident graduate enrollment in 1963 and 1967. These percentages were applied to estimated resident graduate enrollment for 1964, 1965, and 1966, in each control of institution and sex of student category.

3c. Undergraduate, unreported 1960 to 1966

To estimate resident and extension undergraduate and first-professional opening fall enrollment in 4-year institutions, 1960 to 1966, the estimate of resident graduate enrollment was subtracted from degree-credit resident and extension enrollment in each year in each control of institution and sex and attendance status of student category. (In 2-year institutions undergraduate degree-credit enrollment is the same as total degree-credit enrollment.)

3d. Degree-credit, unreported in 1966

To estimate resident and extension total opening fall enrollment by degree-credit status and attendance status in 1966, percentages of resident and extension total enrollment by degree-credit status in each attendance status category calculated from the unpublished 1966 comprehensive survey of enrollment (not available by sex) were applied to reported 1966 total enrollment by attendance status categories.

To estimate full-time degree-credit and part-time degree-credit opening fall enrollment by sex in 1966, percentages of full-time degree-credit enrollment by sex and of part-time degree-credit enrollment, by sex calculated from the 1965 opening fall enrollment survey (non-degree-credit enrollment was not reported by attendance status in 1965) were applied to estimated degree-credit attendance status categories.

3e. Non-degree-credit, unreported in 1966

The estimation of non-degree-credit enrollment by attendance status in 1966 was a byproduct of the estimation of degree-credit enrollment by attendance status in 1966.

To estimate non-degree-credit total opening fall enrollment by attendance status and sex in 1966, estimated degree-credit categories by attendance and sex were subtracted from reported total degree-credit and non-degree-credit categories by attendance status and sex. These differences were adjusted to agree with the estimated nondegree categories by attendance status which were a byproduct of the estimation of degree-credit enrollment by attendance status.

3f. Degree-credit, unreported 1967

To estimate resident and extension total opening fall enrollment by degree-credit status in 1967:

(1) Percentages of resident and extension total enrollment by degree-credit status in each sex category (not available by attendance status), calculated from the unpublished 1967 comprehensive survey of enrollment were applied to reported 1967 total enrollment by sex categories;

(2) Similar percentages by degree-credit status in each attendance status category (not available by sex), calculated from the 1967 comprehensive enrollment survey, were applied to reported 1967 resident and extension total enrollment by attendance status categories;

(3) Probability estimates were applied to the two sets of estimates (one by sex, one by attendance status) to obtain estimates of resident and extension total enrollment by degree-credit status in each sex and attendance status category.

3g. Non-degree-credit, unreported 1967

The estimation of resident and extension non-degree-credit enrollment by sex and attendance status in 1967 was a byproduct of the estimation of resident and extension degree-credit enrollment by attendance status and sex in 1967.

3h. Resident graduate, unreported in 1967

To estimate resident graduate opening fall enrollment by sex and attendance status in 1967:

(1) Percentages of resident postbaccalaureate enrollment by resident graduate and first-professional enrollment status in each sex category, calculated from the unpublished 1967 comprehensive survey of enrollment, were applied to reported 1967 resident postbaccalaureate enrollment in corresponding sex categories;

(2) Similar percentages for attendance status categories, calculated from the 1967 comprehensive survey of enrollment (this survey reported categories by sex and attendance status independently), were applied to reported 1967 resident postbaccalaureate enrollment in corresponding attendance status categories;

(3) Probability estimates were applied to the two sets of estimates (one by sex, one by attendance status) to obtain estimates of resident graduate and resident first-professional enrollment by sex and attendance status.

3i. Undergraduate and first-professional, unreported in 1967

To estimate resident and extension degree-credit undergraduate and first-professional opening fall enrollment in 1967 (a revision because the 1967 comprehensive survey of enrollment was not available until 1970), estimated 1967 resident graduate enrollment was subtracted from the total of estimated 1967 resident and extension degree-credit enrollment in 4-year institutions in each sex and attendance status category.

3j. Resident graduate, unreported in 1968

To estimate resident graduate opening fall enrollment for 1968 in each control of institution and sex category, an interpolation was made between the percentages that resident graduate enrollment was of postbaccalaureate enrollment in 1967 and 1969. This interpolated percentage was applied to postbaccalaureate enrollment in 1968.

To estimate resident graduate opening fall enrollment by attendance status in each control of institution and sex category an interpolation was made between the percentages that full-time resident graduate enrollment was of total resident graduate enrollment in 1967 and 1969. The interpolated percentage was applied to estimated resident graduate enrollment.

3k. Undergraduate and first-professional, unreported in 1968

To estimate resident and extension degree-credit undergraduate and first-professional opening fall enrollment in 1968 (a revision because the 1967 comprehensive survey of enrollment was not available until 1970), estimated 1968 resident graduate enrollment was subtracted from the total of reported 1968 resident and extension degree-credit enrollment in 4-year institutions in each sex and attendance status category.

3m. Enrollment, total non-degree-credit by attendance status, 1960-67 (tables 9-11)

Non-degree-credit enrollment by attendance status was not reported in the opening fall enrollment surveys prior to 1968. It was never reported in the comprehensive surveys of enrollment in 1959 and 1961. In 1964, the sample survey of full-time-equivalent enrollment and credit hours reported that 40 percent of total non-degree-credit enrollment was full time (not available by type and control of institution).

To estimate the full-time percentages from 1960 to 1964, the full-time percentages by type and control of institution from the 1968 opening fall enrollment survey were prorated down to equal about 40 percent for the total. For the years 1965 to 1967, the percentages between 1964 and the actual 1968 percentages, for each type and control of institution, were interpolated.

4. Instructional staff in institutions of higher education (tables 31-33)

4a. Instructional staff persons, unreported in 1959, 1961 and 1963

For each category of type and control of institution, the average ratio of total professional positions to total number of professional persons was calculated from *Faculty and Other Professional Staff in Institutions of Higher Education,* biennially, first-term 1959-60 to 1963-64. This ratio was applied to the number of reported instructional positions for both professional ranks to estimate the number of instructional persons.

4b. Full-time junior instructional staff, unreported in 1960-65

The percentage in 1966 that full-time junior instructional staff was of total junior instructional staff was assumed to have been the same in 1960 through 1965.

4c. Full-time equivalent of part-time junior instructional staff, unreported in 1960-1965

The percentage in 1966 that full-time-equivalent of part-time junior instructional staff was of part-time junior instructional staff was assumed to have been the same in 1960 through 1965.

4d. Full-time junior instructional staff, unreported in 1968

The percentage in 1967 that full-time junior instructional staff was of total junior instructional staff was assumed to have remained constant.

5. Population, composite, 1960-1981 (table B-2)

Beginning with the 1969 edition of *Projections of Educational Statistics,* the 18-year-old population used previously for projecting degrees by level was replaced by a composite population. This population is not only more representative of the actual ages of the recipients but tends to smooth out any rough year-to-year changes in population.

For this purpose, the percentage distributions of ages at graduation from college found by Laure M. Sharp in the 1958 survey *Two Years After the College Degree* were taken as the base. These percentage distributions, kept separate for men and for women, were detruncated to avoid too many age classes and then restored to 100 percent by prorating, with the following result:

	Percent of graduates	
Age	*Men*	*Women*
21	10	21
22	43	61
23	15	8
24	15	7
25	9	2
26	8	1

To obtain the composite population for a given year, the above percentages were applied to the corresponding age-specific populations in that year and the products summed.

The timelags for each level were kept the same as in previous projections. These timelags were 2 years from the bachelor's degree to the master's degree, and 3 years from the master's degree to the doctorate.

A comparison of the fits obtained from equations based on the 18-year-old population and from equations based on the composite population showed that the latter produced a higher index of determination.

Classification of Degrees by Field of Study

[Individual fields listed in 1968-69 report of bachelor's and higher degrees conferred]

- I. Natural sciences and related professions
  - Mathematics[1]
    - Mathematics
    - Statistics
    - Computer science and systems analysis
      - Data processing
      - Computer science
      - Systems analysis
      - Computer science and systems analysis, other fields
      - Computer science and systems analysis, field not identified
  - Engineering[1]
  - Physical sciences[1]
    - Astronomy
    - Chemistry
      - Chemistry
      - Pharmaceutical chemistry
    - Earth sciences
      - Earth sciences, general
      - Geology
      - Geophysics (including seismology)
      - Oceanography
      - Earth sciences, other fields
    - Meteorology
    - Physics
    - Other physical sciences
      - Physical sciences, general
      - Metallurgy (excluding metallurgical engineering)
      - Physical sciences, other fields
      - Physical sciences, field not identified
  - Biological sciences[1]
    - Anatomy and histology
    - Bacteriology, virology, mycology, parasitology, and microbiology
    - Biochemistry
    - Biology, general
    - Botany
      - Botany, general
      - Plant pathology
      - Plant physiology
    - Entomology
    - Physiology
    - Zoology, general
    - Other biological sciences
      - Premedical, predental, and preveterinary sciences
      - Biophysics
      - Cytology
      - Ecology
      - Embryology
      - Genetics
      - Molecular biology
      - Nutrition
      - Optometry (preprofessional degree)
      - Pathology (excluding plant pathology)
      - Pharmacology (excluding pharmacy)
      - Biological sciences, other fields
      - Biological sciences, fields not identified
  - Agriculture and forestry[1]
    - Animal sciences
      - Animal, dairy, and poultry science
    - Other agriculture
      - Agriculture, general
      - Agriculture, business
      - Agronomy, field crops
      - Farm management (excluding agricultural economics)
      - Fish and game, or wildlife management
      - Food science
      - Horticulture (fruit and vegetable production)
      - International agriculture
      - Ornamental horticulture
      - Soil science
      - Agriculture, other fields
      - Agriculture, field not identified
      - Agricultural education
    - Forestry
  - Health professions[1]
    - Dentistry, D.D.S. and D.M.D. only
    - Medicine, M.D. only
    - Nursing and/or public health nursing
    - Optometry (excluding preprofessional degrees)
    - Osteopathy
    - Pharmacy
    - Public health
    - Veterinary medicine, D.V.M. only
    - Other health professions
      - Chiropody or podiatry
      - Dental hygiene
      - Hospital administration
      - Medical technology
      - Occupational therapy
      - Physical therapy, physiotherapy
      - Radiologic technology
      - Clinical dental, medical, and veterinary medical sciences (advanced degrees only)
      - Health professions, other fields
      - Health professions, field not identified
    - Science, general program (without major field)[1]

- II. Social sciences, humanities, and related professions
  - Fine arts[1]
    - Architecture
      - Architecture

See footnotes at end of list.

Classification of degrees by field of study—Continued

    - City planning
  - Music
    - Music education
    - Music including sacred music
  - Speech and dramatic arts
    - Speech and hearing impaired
    - Speech and dramatic arts
  - Other fine and applied arts
    - Art education
    - Art, general
    - Fine and applied arts, other fields
    - Fine and applied arts, field not identified
- English and journalism[1]
  - English
  - Journalism
- Foreign languages[1]
  - Latin, classical Greek
  - French
  - German
  - Russian and other Slavic languages
    - Russian
    - Other Slavic languages
  - Spanish
  - Other languages and language programs
    - Linguistics (including phonetics and semantics)
    - Italian
    - Portuguese
    - Philology and literature of Romance languages
    - Other Germanic languages
    - Philology and literature of Germanic languages
    - Arabic
    - Chinese
    - Hebrew
    - Hindi and/or Urdu
    - Japanese
    - Foreign languages, other fields
    - Foreign languages, field not identified
    - Teaching English as a foreign language
    - Modern language (combination of 3 or more)
- Psychology[1]
  - General psychology
  - Clinical psychology
  - Counseling psychology
  - Social psychology
  - Rehabilitation counselor training[3]
  - Educational psychology[3]
  - Psychology, other fields
  - Psychology, field not identified
- Social sciences[1]
  - Anthropology
  - Economics
    - Agricultural economics
    - Economics
  - Geography
  - History
    - American studies, American civilization, American culture
    - History
  - International relations
  - Political science, government
  - Public administration
  - Sociology
  - Other social sciences
    - Social sciences, general
    - Area studies, regional studies
    - Folklore
    - Foreign service programs (consular and diplomatic service)
    - Industrial relations
    - Basic social sciences, other fields
    - Applied social sciences, other fields
    - Social sciences, field not identified
- Education[1]
  - Physical education
    - Physical education (including nonteaching)
    - Health education
    - Recreation education
  - Industrial arts
    - Industrial arts education (nonvocational)
    - Trade and industrial education (vocational)
  - Other specialized teaching fields
    - Education of exceptional children
      - Education of the visually handicapped[4]
      - Education of the mentally retarded
      - Education of the emotionally disturbed
      - Education of the deaf
      - Education of the crippled
      - Education of the gifted[2]
      - Special learning disabilities[2]
      - Education of the multiply handicapped
      - Administration of special education
      - Education of exceptional children, all other
    - Specialized teaching fields, other fields
  - General teaching fields
    - Nursery, kindergarten education
    - Early childhood education
    - Elementary education
    - Secondary education (including junior high school)
    - Combined elementary and secondary education
    - Adult education
    - General teaching fields, other fields
  - Other education fields
    - Education specialist

See footnotes at end of list.

Classification of degrees by field of study—Continued

- Educational administration, supervision, or finance
- Counseling and guidance
- Rehabilitation counselor training[5]
- History, philosophy, and theory of education, and comparative education
- Curriculum and instruction
- Education, general
- Preprofessional bachelor's degrees
- Other education fields
- Education, field not identified

Library science[1]

Social work, social administration, social welfare[1]

Business and commerce
  - Accounting[1]
  - Other business and commerce[1]
    - Finance, banking
    - Hotel and restaurant administration
    - Marketing
    - Real estate and insurance
    - Secretarial studies
    - Transportation
    - Business and commerce, other fields
    - Business and commerce, field not identified
    - Business education, commercial education
    - Distributive education, retail selling

Other[1]
  - Philosophy and religion
    - Philosophy
    - Scholastic philosophy
    - Religious education, Bible
    - Other religious fields
      - Religion, liberal arts curriculum, nonsectarian
      - Religion, other fields
      - Religion, field not identified
  - Home economics
    - Home economics education
    - Home economics, general
    - Child development, family relations
    - Clothing, textiles
    - Foods and nutrition
    - Institution management, institution administration
    - Home economics, other fields
    - Home economics, field not identified
  - Law (L.L.B., J.D., or higher degrees)
  - Military, naval, or air force science
    - Merchant marine (deck officer only)
    - Military, naval, or air force science
  - Theology
    - Theology (first-professional degree)
    - Theology (master's and doctor's degrees)
  - Miscellaneous and unclassified fields
    - Trade and industrial training
    - Arts general program (without major field)
    - Arts and sciences, general program
    - Interarea and interfields of study
    - Records management
    - Fields of study not listed
    - Field of study not identified

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[1] Projected in tables 23, 24 and 25.

[2] See also "Education."

[3] Includes similar listing from education, 1968-69 report.

[4] Replaces two categories: Education of the partially sighted and Education of the blind.

[5] See also "Psychology."

Changes in Degree-Level Definitions

Prior to 1960-61	1960-61 through 1964-65	1965-66
	BACHELOR'S DEGREES	
Number of years of work not specified. First-professional degrees included.	Number of years or work specified as less than 5. First-professional degrees excluded.	Number of years of work specified as less than 6. First-professional degrees excluded.
	FIRST-PROFESSIONAL DEGREES	
Included with bachelor's degrees.	5 or more years of work required. Includes first-professional degrees such as degrees in dentistry, law, medicine, and theology. Includes master's degrees such as degrees in business administration, hospital administration, law, library science, social work, and theology.	6 or more years of work required. Includes first-professional degrees such as degrees in dentistry, law, medicine, and theology. Excludes all master's degrees.
	MASTER'S DEGREES	
	Includes all master's degrees except some considered first-professional. Includes second-professional degrees below level of doctorate.	Includes all master's degrees including those considered first-professional prior to 1965-66. Includes second-professional degrees below level of doctorate.
	DOCTOR'S DEGREES	
Includes Ph.D. in any field and such degrees as doctor of education, doctor of juridical science, and doctor of public health (preceded by professional degree in medicine or sanitary engineering).	No change.	No change.

Glossary

Courses

Adult education courses

Group instruction in courses which are designed for, or attended principally by, persons who have terminated their formal education.

Degree-credit courses

Courses which carry credit toward a bachelor's or higher degree.

Individual lessons

Lessons in music, art, speech, etc.

Non-degree-credit courses

Courses extending not more than 3 years beyond high school and designed to prepare students for immediate employment in an occupation or cluster of occupations at the technical and/or semiprofessional level (engineering-related or non-engineering-related), or at the craftsman-clerical level (artisans, skilled workers, and clerical workers).

Short courses

Courses that carry no credit toward a degree because of less than prescribed length.

Degrees

Bachelor's or first-level degrees

Lowest degree conferred by college, university, or professional school, requiring 4 or more years of academic work. For changes in Office of Education classification, see appendix A, "Changes in Degree-Level Definitions."

Doctor's degrees (except first-professional)

Highest academic degree conferred by a university; includes Ph.D. in any field; includes doctor of education, doctor of juridical science, and doctor of public health (preceded by professional degree in medicine or sanitary engineering).

First-professional degrees

An academic degree which requires at least 2 academic years of previous college work for entrance and which requires a total of at least 6 academic years of college work for completion. Beginning in 1965-66, Office of Education classification includes the following degrees only: Law (LL.B. or J.D. only); dentistry (D.D.S. or D.M.D. only); medicine (M.D. only); veterinary medicine (D.V.M. only); chiropody or podiatry (D.S.C. or D.P.); optometry (O.D.); osteopathy (D.O.); and theology (B.D. only). For changes in Office of Education classification, see appendix A, "Changes in Degree-Level Definitions."

Master's or second-level degrees

An academic degree higher than a bachelor's but lower than a doctor's. All degrees classified as first-professional are excluded.

Expenditures, elementary and secondary

Current expenditures, regular elementary and secondary day schools

Includes current expenditures for administration, instruction, plant operation and maintenance, fixed charges (retirement, social security, insurance, etc.), and other school services (pupil transportation, food services, health services, attendance services, and miscellaneous school services).

Current expenditures, total

Includes current expenditures for regular elementary and secondary day school programs and current expenditures for other school programs including summer schools, adult education, community colleges, and community-services.

Expenditures, total

Includes total current expenditures for all programs, capital outlay, and interest on school debt.

Expenditures, general

Capital outlay

An expenditure for land or existing buildings, improvement of grounds, construction of buildings, additions to buildings, and initial or additional equipment. Includes replacement and rehabilitation and installment or lease payments (excluding interest) which have a terminal date and result in the acquisition of property.

Constant dollars (1969-70)

Expenditure data which have been adjusted by means of price and cost indexes to equal the purchasing power of 1969-70 dollars. This eliminates inflationary factors and allows direct comparison between years.

Current dollars

Expenditure data which have not been adjusted to compensate for inflation. (Projection of unadjusted expenditure data has been limited to 2 years.)

Current expenditures

Any expenditure except for capital outlay and debt service. If accounts are kept on the accrual basis, current expense includes total charges incurred, whether paid or unpaid. If accounts are kept on the cash basis, it includes only actual disbursements.

Debt service

Includes payment for retirement of debt and for use of long-term loans (not repaid in the year in which made).

Interest

Any payment for use of money.

Expenditures, higher education

Current expenditures, total

The term used for total expenditure from current funds less expenditures from current funds which are used for capital outlay (about 16 percent of total capital outlay is expended from current funds).

Current fund expenditures, total

Includes expenditures for auxiliary enterprises, organized research, related activities, student aid, and student education. Approximately 16 percent of total capital outlay by institutions of higher education is estimated to have been expended directly from current funds.

Auxiliary enterprises.—Expenditures for services to students, faculty, or other staff for which a fee is charged that is directly related to, but not necessarily equal to, the cost of service. For example, dormitories, food service, and student stores.

Organized research.—Expenditures for all sponsored research and all separately budgeted research. Excludes expenditures for research carried on as part of the regular instructional services departmental research which is included with expenditures for student education.

Related activities.—Expenditures for activities which exist to provide instructional or laboratory experience for students and which incidentally create goods or services that may be sold on the campus or to the general public. Expenditures are incurred in addition to those necessary solely for the educational benefit of the students. Expenditures from current funds which could not be reported under "student education" or "organized research" are here included under "related activities."

Student aid.—Expenditures for assistance to students through scholarships, fellowships, and prizes. Recipients are not required to repay, either through services or monies.

Student education.—Expenditures for those components of educational and general expenditures which are most closely related to instruction. Includes instruction and research which are part of regular instructional services (departmental research), extension and public service, libraries, physical plant operation and maintenance, general administration, and other sponsored activities.

Expenditures, total

Includes expenditures for capital outlay, debt service including interest, and total current expenditures.

Student charges

Student charges include charges for tuition, required fees, room, and board. Required fees are those for matriculation, laboratory, library, health, etc. They do not include books. Student charges as reported in this circular are based on full-time, resident (in-State or in-district) students.

Schools

Elementary schools

Schools with teaching primarily organized by grades, composed of a span of grades not above grade eight.

Independent nursery and kindergarten schools

Schools that offer nursery and/or kindergarten instruction only.

Other schools

Other schools include residential schools for exceptional children (public and nonpublic), Federal schools for Indians, federally operated schools on Federal installations, and subcollegiate departments of public and private institutions of higher education.

Regular schools

Schools for normal children that satisfy the requirements of the State education laws and offer at least one grade beyond kindergarten.

Residential schools for exceptional children

Residential schools for the handicapped (outside the regular public and private school systems) include public and private residential schools for the deaf, blind, mentally deficient, epileptic, and delinquent. (Most handicapped children are in special classes within the regular public and private school system.)

Secondary schools

Schools with teaching organized by subject matter taught, composed of junior high and high schools.

Special schools

Special schools are schools not in the regular school system, such as trade schools or business colleges.

Students

Advanced-degree students

Students who have attained at least one standard degree and have been accepted as candidates for master's or doctor's degrees.

Extension students

Students who most commonly take instruction away from main campus; also students receiving oncampus instruction offered by an extension division.

First-professional students

See first-professional degrees.

First-time students

Freshmen not previously enrolled in any institutions of higher education.

Full-time students

Students enrolled in courses with credits equal to at least 75 percent of the normal full-time semester course load.

Full-time-equivalent students

The estimated number of full-time students equal to a given number of part-time students. (For degree-credit students the percentage of part-time to full-time is estimated at 33 percent; for non-degree-credit students, 28 percent.)

Graduate students

Students who have attained at least one standard degree and are or might be candidates for a master's or doctor's degree (except first-professional).

Occupational students

See non-degree-credit courses.

Postbaccalaureate students

Students who have attained at least one standard degree and are or might be candidates for a first-professional, master's, or doctor's degree.

Resident students (enrollment)

Students who attend classes on a main campus or a branch campus. Students' living quarters (whether on or off campus) and their legal domicile (whether in-State or out-of-State) are irrelevant.

Resident students (student charges)

Students with legal domicile in-State or in-District.

Unclassified students

Students who are not candidates for a degree, diploma, certificate, or equivalent award, although taking courses in regular classes with other students.

Undergraduate students

Degree-credit or non-degree-credit students who have not received formal recognition as having completed the prescribed degree-credit or non-degree-credit requirements of an accredited institution of higher education.

APPENDIX B

Statistical Tables

Table B-1.—School-age population (U.S. Census projection series C, D, and E), ages 5, 6, and 5-13 years: United States, 1960 to 1981[1]

[Ages as of October 1, populations in thousands]

Year (fall)	Age 5			Age 6			Age 5-13		
	C	D	E	C	D	E	C	D	E
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960	......	3,964	......	......	3,887	......	......	33,064	....
1961	......	4,012	......	......	3,972	......	......	33,461	....
1962	......	4,100	......	......	4,020	......	......	34,111	....
1963	......	4,119	......	......	4,107	......	......	34,781	....
1964	......	4,132	......	......	4,125	......	......	35,446	....
1965	......	4,168	......	......	4,138	......	......	36,048	....
1966	......	4,248	......	......	4,174	......	......	36,631	....
1967	......	4,163	......	......	4,256	......	......	37,017	....
1968	......	4,095	......	......	4,171	......	......	37,243	....
1969	......	4,005	......	......	4,102	......	......	37,288	....
1970	......	3,680	......	......	3,870	......	......	36,443	....
					PROJECTED				
1971	......	3,509	......	......	3,687	......	......	35,790	....
1972	......	3,408	......	......	3,516	......	......	35,054	....
1973	......	3,385	......	......	3,415	......	......	34,303	....
1974	......	3,492	......	......	3,392	......	......	33,691	....
1975	3,508	3,496	3,483	......	3,499	......	33,089	33,077	33,064
1976	3,798	3,735	3,668	3,515	3,503	3,490	32,858	32,783	32,703
1977	3,975	3,856	3,760	3,804	3,742	3,688	32,868	32,675	32,511
1978	4,157	3,981	3,796	3,981	3,862	3,738	33,163	32,791	32,402
1979	4,343	4,110	3,864	4,164	3,988	3,802	33,827	33,224	32,587
1980	4,528	4,238	3,933	4,349	4,116	3,870	34,844	33,950	33,009
1981	4,709	4,364	4,002	4,535	4,244	3,940	36,144	34,924	33,601

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[1] In projecting the number of children to be born, the Census Bureau uses the cohort-fertility method and several different assumptions as to average completed fertility of women in the childbearing ages (15-45 years). These different series of population projections correspond roughly to the following assumptions:

Series C—average completed fertility rate of 2,775 children per 1,000 women is somewhat higher than the most recent data on births indicate.

Series D—average completed fertility rate of 2,450 children per 1,000 women most closely approximates the rate indicated by the most recent data on births.

Series E—average completed fertility rate of 2,110 children per 1,000 women is lower than recent data would indicate. However, in addition to being a low projection, at this rate and without immigration, the population would exactly replace itself after enough time had elapsed for the age structure to stabilize.

For a detailed explanation of the methods used, see the following source, pp. 1-49: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports,* "Population Estimates: Projections of the Population of the United States, by Age, Sex, and Color to 1990, with Extension of Population by Age and Sex to 2,015," Series P-25, No. 381, December 18, 1967.

SOURCES: Office of Education estimates are based on Bureau of the Census population data by age as of July 1. Population data used are consistent with projection data in *Current Population Reports,* "Population Estimates and Projections: Projections of the Population of the United States, by Age and Sex: 1970 to 2020," Series P-25, No. 470, November 1971.

Table B-2.—High school- and college-age population: United States, 1960 to 1981[1]

[Ages as of October 1, populations in thousands]

Year (fall)	14-17	18		18-21		Composite population[2]	
	Total	Men	Women	Men	Women	Men	Women
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1960	11,411	1,411	1,378	4,897	4,827	1,103	1,121
1961	12,199	1,432	1,400	5,234	5,145	1,124	1,141
1962	12,951	1,405	1,371	5,480	5,377	1,153	1,174
1963	13,693	1,466	1,429	5,652	5,543	1,211	1,245
1964	14,215	1,698	1,650	5,817	5,702	1,293	1,348
1965	14,164	1,831	1,774	6,224	6,085	1,366	1,414
1966	14,373	1,790	1,734	6,621	6,444	1,387	1,392
1967	14,720	1,790	1,734	6,995	6,803	1,422	1,422
1968	15,146	1,818	1,760	7,252	7,049	1,514	1,559
1969	15,553	1,870	1,812	7,216	7,020	1,673	1,750
1970	15,992	1,943	1,883	7,399	7,217	1,690	1,734
	PROJECTED						
1971	16,343	1,996	1,936	7,583	7,383	1,745	1,763
1972	16,583	2,038	1,973	7,794	7,580	1,792	1,789
1973	16,752	2,076	2,005	7,965	7,738	1,852	1,838
1974	16,812	2,126	2,052	8,148	7,908	1,879	1,871
1975	16,764	2,152	2,077	8,330	8,076	1,927	1,925
1976	16,645	2.143	2.072	8,457	8,189	1,972	1,966
1977	16,479	2,132	2,064	8,542	8,274	2,016	2,000
1978	16,236	2,127	2,057	8,570	8,306	2,060	2,041
1979	15,806	2,108	2,037	8,542	8,283	2,104	2,080
1980	15,289	2,073	2,001	8,484	8,228	2,122	2,083
1981	14,734	2,031	1,960	8,403	8,142	2,131	2,084

[1] All ages are in completed years except age 18, which has been calculated to nearest birthday. No fertility assumptions are used in this table because the persons included are already born.

[2] The composite population (used for projecting degrees) was derived by (1) prorating to 100 percent the detruncated percentage distribution of the ages of recipients of bachelor's degrees which had been found by Laure M. Sharp in the 1958 survey *Two Years After the College Degree;* and (2) applying these percentages to corresponding age groups which were consistent with the other populations shown in this table. For further estimating details, see appendix A, "Estimation Methods," section 5.

SOURCE: Office of Education estimates are based on Bureau of the Census population data by age as of July 1. Population data used are consistent with projection data in U.S. Department of Commerce, Bureau of the Census *Current Population Reports,* "Population Estimates and Projections: Projections of the Population of the United States, by Age and Sex: 1970 to 2020," Series P-25, No. 470, November 1971.

Table B-3.—Enrollment in grades K-8 and 9-12 of regular day schools, with projections based on U.S. Census population projection series C, by institutional control: United States, fall 1960 to 1980[1]

[In thousands]

Year (fall)	Total public and nonpublic			Public			Nonpublic (estimated)[2]		
	K-12	K-8	9-12	K-12	K-8[3]	9-12[4]	K-12	K-8	9-12[4]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960 . . .	42,181	32,492	9,689	36,281	27,692	8,589	5,900	4,800	[5] 1,100
1961 . . .	43,364	32,895	10,469	37,464	28,095	9,369	5,900	[5] 4,800	[5] 1,100
1962 . . .	44,849	33,537	11,312	38,749	28,637	10,112	6,100	4,900	1,200
1963 . . .	46,487	34,304	12,183	40,187	29,304	10,883	6,300	5,000	[5] 1,300
1964 . . .	47,716	35,025	12,691	41,416	30,025	11,391	6,300	5,000	[5] 1,300
1965 . . .	48,473	35,463	13,010	42,173	30,563	11,610	6,300	[5] 4,900	[5] 1,400
1966 . . .	49,239	35,945	13,294	43,039	31,145	11,894	6,200	4,800	1,400
1967 . . .	49,891	36,241	13,650	43,891	31,641	12,250	6,000	4,600	1,400
1968 . . .	50,744	36,626	14,118	44,944	32,226	12,718	5,800	[5] 4,400	[5] 1,400
1969 . . .	51,219	36,797	14,422	45,619	32,597	13,022	5,600	4,200	1,400
1970 . . .	51,404	36,674	14,730	45,904	32,574	13,330	5,500	4,100	1,400
PROJECTED[6]									
1971 . . .	51,200	36,100	15,000	45,900	32,200	13,600	5,300	3,900	1,400
1972 . . .	50,800	35,600	15,200	45,600	31,800	13,800	5,200	3,800	1,400
1973 . . .	50,400	35,000	15,400	45,300	31,300	14,000	5,100	3,700	1,400
1974 . . .	49,900	34,400	15,500	44,900	30,800	14,100	5,000	3,600	1,400
1975 . . .	49,300	33,800	15,500	44,500	30,400	14,100	4,800	3,400	1,400
1976 . . .	49,100	33,600	15,500	44,400	30,300	14,100	4,700	3,300	1,400
1977 . . .	49,000	33,600	15,400	44,400	30,400	14,000	4,600	3,200	1,400
1978 . . .	49,100	33,900	15,200	44,600	30,800	13,800	4,500	3,100	1,400
1979 . . .	49,400	34,500	14,900	45,000	31,500	13,500	4,400	3,000	1,400
1980 . . .	50,000	35,600	14,400	45,600	32,600	13,000	4,400	3,000	1,400

[1] Does not include independent nursery schools and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, federally operated schools on Federal installations, and other schools not in the regular school system.

[2] Estimated unless otherwise noted. Estimates for years prior to 1965 revised in spring 1968 on basis of 1965 Office of Education survey.

[3] Fall enrollment in public schools not reported by grade prior to 1962; grade breakdown for years 1960 and 1961 estimated from school year enrollment.

[4] Includes some pupils enrolled in grades 7 and 8 of nonpublic secondary schools in 1965 through 1968.

[5] Actual data from Office of Education surveys.

[6] The projection of fall enrollment in regular day schools is based on the following assumptions: (1) Enrollment rates of the 5- and 6-year-old population in public school kindergarten and grade 1 will follow the 1960-70 trends; (2) the public school enrollment in grade 7 in a given year t will exceed the public school enrollment in grade 6 in year t-1 by 2.7 percent of the projected enrollment in grades K-8 in Catholic elementary schools in year t-1; (3) the public school enrollment in grade 9 in year t will exceed the public school enrollment in grade 8 in year t-1 by 3.8 percent of the projected enrollment in grades K-8 in Catholic elementary schools in year t-1; (4) the retention rates of all other public school grades will remain constant at the 1969 to 1970 levels; (5) enrollments in grades K-8 in Catholic elementary schools will decrease from 3.4 million in 1970 to 2.0 million in 1980; and (6) enrollments in grades K-8 in all regular nonpublic day schools will decrease through 1980; grades 9-12 in these schools will remain constant at the 1968 level.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on (1) U.S. Department of Health, Education, and Welfare, Office of Education publications: (a) *Statistics of Public Schools*, fall 1964 through 1970; (b) *Enrollment, Teachers, and Schoolhousing*, fall 1959 through 1963; (c) *Statistics of State School Systems*, 1959-60 and 1961-62; (d) prepublication data from *Statistics of Nonpublic Elementary and Secondary Schools, 1968-69;* (e) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66;* (f) *Nonpublic School Enrollment in Grades 9-12, Fall 1964, and Graduates, 1963-64;* (g) *Statistics of Nonpublic Elementary Schools, 1961-62;*

(h) *Statistics of Nonpublic Secondary Schools, 1960-61;* and (2) National Catholic Educational Association: *A Report on U.S. Catholic Schools, 1970-71.*

The population projections as of October 1, of 5- and 6-year-olds on which the enrollment projections in kindergarten and grade 1 are based, are consistent with series C population projections in: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports,* Series P-25, No. 470, November 1971. The C, D, and E population projections, together with definitions of each series, are shown in appendix B, table B-1.

Table B-4.—Enrollment in grades K-8 and 9-12 of regular day schools, with projections based on U.S. Census population projection series E, by institutional control: United States, fall 1960 to 1980[1]

[In thousands]

Year (fall)	Total public and nonpublic			Public			Nonpublic (estimated)[2]		
	K-12	K-8	9-12	K-12	K-8[3]	9-12[3]	K-12	K-8	9-12[4]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960	42,181	32,492	9,689	36,281	27,692	8,589	5,900	4,800	[5] 1,100
1961	43,364	32,895	10,469	37,464	28,095	9,369	5,900	[5] 4,800	[5] 1,100
1962	44,849	33,537	11,312	38,749	28,637	10,112	6,100	4,900	1,200
1963	46,487	34,304	12,183	40,187	29,304	10,883	6,300	5,000	[5] 1,300
1964	47,716	35,025	12,691	41,416	30,025	11,391	6,300	5,000	[5] 1,300
1965	48,473	35,463	13,010	42,173	30,563	11,610	6,300	[5] 4,900	[5] 1,400
1966	49,239	35,945	13,294	43,039	31,145	11,894	6,200	4,800	1,400
1967	49,891	36,241	13,650	43,891	31,641	12,250	6,000	4,600	1,400
1968	50,744	36,626	14,118	44,944	32,226	12,718	5,800	[5] 4,400	[5] 1,400
1969	51,219	36,797	14,422	45,619	32,597	13,022	5,600	4,200	1,400
1970	51,404	36,674	14,730	45,904	32,574	13,330	5,500	4,100	1,400
					PROJECTED[6]				
1971	51,200	36,100	15,000	45,900	32,200	13,600	5,300	3,900	1,400
1972	50,800	35,600	15,200	45,600	31,800	13,800	5,200	3,800	1,400
1973	50,400	35,000	15,400	45,300	31,300	14,000	5,100	3,700	1,400
1974	49,900	34,400	15,500	44,900	30,800	14,100	5,000	3,600	1,400
1975	49,300	33,800	15,500	44,500	30,400	14,100	4,800	3,400	1,400
1976	48,900	33,400	15,500	44,200	30,100	14,100	4,700	3,300	1,400
1977	48,700	33,300	15,400	44,100	30,100	14,000	4,600	3,200	1,400
1978	48,400	33,200	15,200	43,900	30,100	13,800	4,500	3,100	1,400
1979	48,300	33,400	14,900	43,900	30,400	13,500	4,400	3,000	1,400
1980	48,300	33,900	14,400	43,900	30,900	13,000	4,400	3,000	1,400

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[1] Does not include independent nursery schools and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, federally operated schools on Federal installations, and other schools not in the regular school system.

[2] Estimated unless otherwise noted. Estimates for years prior to 1965 revised in spring 1968 on basis of 1965 Office of Education survey.

[3] Fall enrollment in public schools not reported by grade prior to 1962; grade breakdown for years 1960 and 1961 estimated from school year enrollment.

[4] Includes some pupils enrolled in grades 7 and 8 of nonpublic secondary schools in 1965 through 1968.

[5] Actual data from Office of Education surveys.

[6] The projection of fall enrollment in regular day schools is based on the following assumptions: (1) Enrollment rates of the 5- and 6-year-old population in public school kindergarten and grade 1 will follow the 1960-70 trends. (2) The public school enrollment in grade 7 in a given year t will exceed the public school enrollment in grade 6 in year t-1 by 2.7 percent of the projected enrollment in grades K-8 in Catholic elementary schools in year t-1. (3) The public school enrollment in grade 9 in year t will exceed the public school enrollment in grade 8 in year t-1 by 3.8 percent of the projected enrollment in grades K-8 in Catholic elementary schools in year t-1. (4) The retention rates of all other public school grades will remain constant at the 1969 to 1970 levels. (5) Enrollments in grades K-8 in Catholic elementary schools will decrease from 3.4 million in 1970 to 2.0 million in 1980. (6) Enrollments in grades K-8 in all regular nonpublic day schools

will decrease through 1980; grades 9-12 in these schools will remain constant at the 1968 level.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, detail may not add to totals.

SOURCES: Enrollment data and estimates are based on (1) U.S. Department of Health, Education, and Welfare, Office of Education publications: (a) *Statistics of Public Schools,* fall 1964 through 1970; (b) *Enrollment, Teachers, and Schoolhousing,* fall 1959 through 1963; (c) *Statistics of State School Systems,* 1959-60 and 1961-62; (d) prepublication data from *Statistics of Nonpublic Elementary and Secondary Schools, 1968-69;* (e) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66;* (f) *Nonpublic School Enrollment in Grades 9-12, Fall 1964, and Graduates, 1963-64;* (g) *Statistics of Nonpublic Elementary Schools, 1961-62;* (h) *Statistics of Nonpublic Secondary Schools, 1960-61;* and (2) National Catholic Educational Association: *A Report on U.S. Catholic Schools, 1970-71.*

The population projections as of October 1, of 5- and 6-year-olds on which the enrollment projections in kindergarten and grade 1 are based, are consistent with series E population projections in: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports,* Series P-25, No. 470, November 1971. The C, D, and E population projections, together with definitions of each series, are shown in appendix B, table B-1.

Table B-5.—First-year students enrolled for master's and doctor's degrees, by sex: United States and outlying areas, fall 1960 to 1970[1]

[In thousands]

Year (fall) (1)	First-year enrollment for master's and doctor's degrees (2)	Men (3)	Women (4)
1960[2]	197	140	57
1961[3]	217	152	65
1962[3]	240	166	75
1963[3]	271	184	87
1964[3]	318	213	105
1965[3]	359	237	122
1966.	371	241	130
1967.	428	270	158
1968.	458	279	179
1969.	494	296	199
1970.	528	316	212

[1] In 1970, outlying areas made up slightly less than 0.5 percent of 1st-year enrollment for master's and doctor's degrees.

[2] Estimation based on the percentage that the sum of men's master's degrees in 1961-62 and men's doctor's degrees in 1964-65 was of the sum of total master's degrees in 1961-62 and total doctor's degrees in 1964-65.

[3] Interpolated.

NOTE.—Because of rounding, detail may not add to totals.

SOURCES: Enrollment data from U.S. Department of Health, Education, and Welfare, Office of Education publications: (1) *Students Enrolled for Advanced Degrees,* fall 1966 through 1970; (2) *Enrollment for Master's and Higher Degrees, Fall 1965: Summary Report;* (3) *Enrollment for Master's and Higher Degrees, Fall 1964;* and (4) *Enrollment for Advanced Degrees,* fall 1960 through 1963.

Table B-6.—Constant dollar index

[1970-71 = 100]

July to June	Consumer price index[1]	Construction cost index[2]
1960-61	74.938	61.104
1961-62	75.709	62.881
1962-63	76.606	64.404
1963-64	77.699	66.181
1964-65	78.693	67.894
1965-66	80.402	70.432
1966-67	82.889	74.429
1967-68	85.655	78.427
1968-69	89.781	84.899
1969-70	95.097	90.927
1970-71	100.000	100.000
	ESTIMATED[3]	
1971-72	104.308	106.364
1972-73	108.617	112.728

[1] The monthly indexes were averaged on a July to June basis to correspond with the school year and converted to 1970-71 = 100. The 1967 = 100 index number for 1970-71 was 118.975.

[2] The monthly indexes were averaged on a July to June basis to correspond with the school year and converted to 1970-71 = 100. The 1967 = 100 index number for 1970-71 was 131.333.

[3] Estimated on 5-year trend, 1966-67 through 1970-71, projected 10 years and fitted to the 1970-71 index number.

SOURCES: The Consumer Price Index, prepared by the Bureau of Labor Statistics, U.S. Department of Labor; and the American Appraisal Company Construction Cost Index, published in *Construction Review* by the U.S. Department of Commerce.

Table B-7.—Estimated receipts by regular and "other" educational institutions, by level, by control, and by source: United States, 1961-62 to 1967-68[1]

Source of funds, by control and level (1)	1961-62 (2)	1963-64 (3)	1965-66 (4)	1967-68 (5)	1961-62 (6)	1963-64 (7)	1965-66 (8)	1967-68 (9)
	AMOUNT (In billions of current dollars)				PERCENT			
All Levels:								
Total, public and nonpublic	$30.7	$36.8	$47.1	$58.7	100.0	100.0	100.0	100.0
Federal	2.5	3.4	5.3	6.9	8.1	9.2	11.3	11.7
State	9.1	10.8	13.7	17.3	29.7	29.4	29.1	29.5
Local	11.3	12.8	15.5	18.9	36.8	34.8	32.9	32.2
All other	7.8	9.8	12.6	15.6	25.4	26.6	26.7	26.6
Total, public	24.1	28.5	36.9	46.8	100.0	100.0	100.0	100.0
Federal	1.7	2.2	3.9	5.2	7.1	7.7	10.6	11.1
State	9.0	10.7	13.6	17.2	37.3	37.6	36.8	36.8
Local	11.3	12.8	15.5	18.9	46.9	44.9	42.0	40.4
All other	2.1	2.8	3.9	5.5	8.7	9.8	10.6	11.7
Total, nonpublic	6.6	8.3	10.2	11.9	100.0	100.0	100.0	100.0
Federal	.8	1.2	1.4	1.7	12.1	14.5	13.7	14.3
State	.1	.1	.1	.1	1.5	1.2	1.0	.8
Local	(2)	(2)	(2)	(2)	(3)	(3)	(3)	(3)
All other	5.7	7.0	8.7	10.1	86.4	84.3	85.3	84.9

See footnotes at end of table.

Table B-7.—Estimated receipts by regular and "other" educational institutions, by level, by control, and by source: United States, 1961-62 to 1967-68[1] —Continued

Source of funds, by control and level (1)	1961-62 (2)	1963-64 (3)	1965-66 (4)	1967-68 (5)	1961-62 (6)	1963-64 (7)	1965-66 (8)	1967-68 (9)
	AMOUNT (In billions of current dollars)				PERCENT			
Elementary and Secondary:								
Total, public and nonpublic	$21.6	$24.9	$31.2	$38.0	100.0	100.0	100.0	100.0
Federal	.9	1.1	2.2	3.0	4.2	4.4	7.1	7.9
State	6.8	8.0	9.9	12.3	31.5	32.1	31.7	32.4
Local	11.1	12.5	15.1	18.3	51.4	50.2	48.4	48.1
All other	2.8	3.3	4.0	4.4	12.9	13.3	12.8	11.6
Total, public	18.9	21.7	27.3	33.7	100.00	100.00	100.0	100.0
Federal	.9	1.1	2.2	3.0	5.1	5.0	8.0	8.9
State	6.8	8.0	9.9	12.3	35.9	37.2	36.3	36.5
Local	11.1	12.5	15.1	18.3	58.6	57.4	55.2	54.3
All other	.1	.1	.1	.1	.4	.4	.5	.3
Total, nonpublic	2.7	3.2	3.9	4.3	100.0	100.0	100.0	100.0
Federal	....	....	....	....	.....	.....	.....	.....
State	....	....	....	....	.....	.....	.....	.....
Local	....	....	....	....	.....	.....	.....	.....
All other	2.7	3.2	3.9	4.3	100.0	100.0	100.0	100.0

See footnotes at end of table.

Table B-7.—Estimated receipts by regular and "other" educational institutions, by level, by control, and by source: United States, 1961-62 to 1967-68[1] —Continued

Source of funds, by control and level (1)	1961-62 (2)	1963-64 (3)	1965-66 (4)	1967-68 (5)	1961-62 (6)	1963-64 (7)	1965-66 (8)	1967-68 (9)
	AMOUNT (In billions of current dollars)				PERCENT			
Institutions of Higher Education:								
Total, public and nonpublic	$9.1	$11.9	$15.9	$20.7	100.0	100.0	100.0	100.0
Federal	1.6	2.3	3.1	3.9	17.6	19.3	19.5	18.8
State	2.3	2.8	3.8	5.0	25.3	23.6	23.9	24.2
Local	.2	.3	.4	.6	2.2	2.5	2.5	2.9
All other	5.0	6.5	8.6	11.2	54.9	54.6	54.1	54.1
Total, public	5.2	6.8	9.6	13.1	100.0	100.0	100.0	100.0
Federal	.8	1.1	1.7	2.2	16.0	16.9	17.6	17.1
State	2.2	2.7	3.7	4.9	41.2	39.7	38.4	37.6
Local	.2	.3	.4	.6	4.2	4.3	4.1	4.5
All other	2.0	2.7	3.8	5.4	38.6	39.1	39.9	40.8
Total, nonpublic	3.9	5.1	6.3	7.6	100.0	100.0	100.0	100.0
Federal	.8	1.2	1.4	1.7	20.5	23.1	22.1	22.6
State	.1	.1	.1	.1	1.5	1.3	1.5	1.2
Local	(2)	(2)	(2)	(2)	.2	.2	.1	.3
All other	3.0	3.8	4.8	5.8	77.8	75.4	76.3	75.9

See footnotes at end of table.

[1] Includes estimates for "other" elementary and secondary schools such as residential schools for exceptional children, Federal schools for Indians, and federally operated elementary and secondary schools on posts. The annual receipts of "other" elementary and secondary schools were estimated as follows: Public, $200 million annually, 1961-62 to 1967-68; nonpublic, less than $50 million for 1961-62 and $100 million annually, 1963-64 to 1967-68.

[2] Less than $50 million.

[3] Less than 0.05 percent.

NOTE.–Receipts include revenue and nonrevenue receipts, current and plant-fund receipts, and proceeds of loans, less transfers of funds which would result in duplication, and less repayment of loans. All receipts and deductions concerning loans are included in "all other" sources. Deduction of transfers was made from data in "all other" sources.

Table B-8.—Federal funds for education and related activities: Obligations for fiscal years 1962 to 1967 and outlay for fiscal years 1968 to 1972

[In thousands of dollars]

Type of support, level, and program area	New obligational authority						Outlay				
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971 (estimated)	1972 (estimated)
1	2	3	4	5	6	7	8	9	10	11	12
PART I. Federal Funds Supporting Education in Educational Institutions											
Total grants and loans	$2,173,700	$2,507,600	$2,749,300	$3,908,700	$6,779,578	$8,352,866	$7,804,454	$8,055,396	$9,237,410	$10,708,124	$11,720,848
Grants, total	1,853,200	2,111,700	2,350,500	3,379,600	6,167,878	7,611,283	7,201,173	7,523,169	8,631,114	10,117,151	11,417,956
Elementary-secondary education	555,100	600,400	666,300	942,900	2,480,078	3,037,637	2,967,004	2,838,439	3,212,418	3,604,504	4,083,489
School assistance in federally affected areas.............	304,900	330,300	323,100	407,600	433,900	469,137	506,372	397,581	656,372	511,688	486,569
Economic opportunity programs[1]	53,000	60,900	67,000	123,500	404,300	721,257	628,533	552,434	534,482	573,901	627,160
National Defense Education Act-equipment guidance[2]	59,300	58,700	92,900	90,900	104,400	109,200	109,009	74,316	58,547	46,768	41,000
Supporting services[3]	4,300	4,700	5,200	6,500	173,100	273,551	280,481	290,107	237,532	231,677	255,186
Assistance for educationally deprived children[4]	......	......	......	......	959,000	1,057,455	1,056,983	1,096,106	1,207,894	1,458,507	1,528,905
Teacher Corps	4,000	6,800	5,100	......	6,500	11,324	16,019	19,358	18,191	26,635	29,289
Vocational education ...	26,400	26,300	24,900	127,700	184,678	194,636	185,224	152,441	181,379	235,993	257,678
Dependents' schools abroad	40,500	45,300	61,500	80,500	86,100	87,533	68,220	108,589	137,138	144,663	165,088

See footnotes at end of table.

Table B-8.—Federal funds for education and related activities: Obligations for fiscal years 1962 to 1967 and outlay for fiscal years 1968 to 1972—Continued

[In thousands of dollars]

Type of support, level, and program area	New obligational authority						Outlay				
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971 (estimated)	1972 (estimated)
1	2	3	4	5	6	7	8	9	10	11	12
Public lands revenue for schools	43,500	44,600	48,600	51,500	54,100	50,173	52,294	66,112	82,376	79,527	87,719
Assistance in special areas[5]	14,800	17,700	32,600	50,200	68,800	56,969	58,286	71,118	78,992	170,532	187,651
Veterans' education....	......	......	......	......	......	1,294	3,200	4,924	6,233	10,698	11,929
Emergency school assistance.........	......	......	......	......	......	......	......	......	......	99,853	300,000
Revenue sharing	......	......	......	......	......	......	......	......	......	......	92,000
Other[6]	4,400	5,100	5,400	4,500	5,200	5,108	2,383	5,353	13,282	14,062	13,315
Higher education	1,210,300	1,397,800	1,480,400	2,052,600	2,830,400	3,634,494	3,262,988	3,318,177	3,829,603	4,367,036	4,804,840
Basic research in U.S. educational institutions proper[7]......	602,900	691,600	698,600	784,900	940,300	1,032,823	1,061,818	1,020,905	990,726	1,032,997	[8] 1,107,000
Research facilities[7]....	121,800	157,900	133,500	191,700	194,000	250,568	199,790	238,516	235,459	197,864	[8] 212,000
Training grants	196,000	234,600	261,200	282,400	365,500	363,608	381,116	404,990	843,764	890,910	959,439
Fellowships and traineeships	103,900	143,000	181,800	196,900	264,900	350,162	320,303	247,840	191,271	196,424	158,089
Facilities and equipment	37,100	41,000	56,100	384,100	668,900	822,203	549,382	482,387	374,087	350,312	230,011
Other institutional support	33,000	43,400	69,500	93,400	163,800	169,925	139,637	173,066	178,156	230,813	258,947
Other student assistance.............	103,900	69,900	62,300	100,400	214,200	590,586	608,883	740,498	1,003,594	1,456,781	1,869,199
Other higher education assistance	11,700	16,400	17,400	18,800	18,800	54,619	2,059	9,975	12,546	10,935	10,155

See footnotes at end of table.

Table B-8.–Federal funds for education and related activities: Obligations for fiscal years 1962 to 1967 and outlay for fiscal years 1968 to 1972–Continued

[In thousands of dollars]

Type of support, level, and program area	New obligational authority						Outlay				
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971 (estimated)	1972 (estimated)
1	2	3	4	5	6	7	8	9	10	11	12
Vocational-technical and continuing education (not classifiable by level).	87,800	113,500	203,800	384,100	857,400	939,152	971,181	1,366,553	1,589,093	2,145,611	2,529,627
Vocational, technical and work training[9] ..	34,600	82,700	171,000	364,300	817,900	827,303	851,683	1,163,444	1,269,254	1,685,123	2,014,002
Veterans' education	49,900	29,000	25,100	10,300	6,300	54,000	79,645	123,970	244,634	401,298	461,799
General continuing education[10]	400	400	1,900	1,500	19,200	29,200	28,701	60,364	65,855	47,705	43,038
Training State and local personnel..........	2,900	1,400	5,800	8,000	14,000	28,649	11,152	18,775	9,350	11,485	10,788
Loans, total (higher education)	320,500	395,900	398,800	529,100	611,700	741,583	603,281	532,227	606,296	590,973	302,892
Student loan program, National Defense Education Act[11]	74,600	90,700	111,300	160,100	235,900	237,954	226,303	259,641	295,173	381,718	223,005
College facilities loans[12] ...	245,900	305,200	287,500	369,000	375,800	503,629	376,978	272,586	311,123	209,255	79,887

PART II. Other Federal Funds for Education and Related Activities

Total	$2,777,364	$2,935,341	$3,239,851	$3,717,232	$3,903,859	$3,930,053	$3,605,629	$3,339,667	$3,426,074	$4,035,992	$4,128,291
Applied research and development[7].........	754,700	805,700	906,300	952,300	1,026,600	1,088,150	1,142,350	1,237,499	1,234,099	1,347,336	[8] 1,444,000

See footnotes at end of table.

Table B-8.—Federal funds for education and related activities: Obligations for fiscal years 1962 to 1967 and outlay for fiscal years 1968 to 1972—Continued

[In thousands of dollars]

Type of support, level, and program area	New obligational authority						Outlay				
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971 (estimated)	1972 (estimated)
1	2	3	4	5	6	7	8	9	10	11	12
School lunch and milk programs	366,900	379,300	411,700	507,500	421,900	448,005	543,845	597,700	676,196	965,479	927,547
Training of Federal personnel	1,177,500	1,279,600	1,370,400	1,577,900	1,706,700	1,537,399	1,138,333	639,853	691,694	737,449	727,118
U.S. academies	59,416	59,099	119,796	130,971	154,593	133,002	141,599	170,468	184,262	220,761	221,496
Professional training, military	1,086,584	1,188,601	1,202,604	1,373,229	1,470,507	1,309,948	923,470	375,105	492,040	502,069	490,529
Civilian education and training in non-Federal facilities	31,500	31,900	48,000	73,700	81,600	94,449	73,264	94,280	15,392	14,619	15,093
Library services	22,200	23,900	25,300	82,900	86,300	141,381	136,099	186,124	170,135	185,711	184,871
Grants to public libraries	6,900	7,400	7,500	54,900	55,000	76,000	62,017	62,794	50,235	48,136	32,493
National library services[13]	15,300	16,500	17,800	28,000	31,300	65,381	74,082	123,330	119,900	137,575	152,378
International education	109,100	116,100	130,000	178,700	232,658	326,742	272,008	278,135	193,464	243,616	246,872
Educational exchange program	28,100	35,600	38,000	37,400	53,500	44,712	41,670	38,172	30,850	34,200	39,335
Agency for International Development projects	81,000	80,500	84,600	87,800	111,800	203,270	140,000	170,000	111,325	170,250	171,936
Peace Corps	......	......	......	44,300	57,175	41,944	43,641	44,095	28,150	23,064	19,720
Other international education and training[14]	......	......	7,400	9,200	10,183	36,816	46,697	25,868	23,139	16,102	15,881

See footnotes at end of table.

Table B-8.—Federal funds for education and related activities: Obligations for fiscal years 1962 to 1967 and outlay for fiscal years 1968 to 1972—Continued

[In thousands of dollars]

Type of support, level, and program area	New obligational authority						Outlay				
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971 (estimated)	1972 (estimated)
1	2	3	4	5	6	7	8	9	10	11	12
Other	346,964	330,741	396,151	417,932	429,701	388,376	372,994	400,356	460,486	556,401	597,883
Agricultural Extension Service	59,300	63,000	79,400	85,400	90,700	92,824	90,030	97,273	124,526	160,050	170,800
Educational television facilities	......	......	5,200	5,100	15,200	3,304	6,737	8,756	19,163	28,001	42,348
Education in Federal correctional institutions	2,100	2,500	2,900	3,500	3,600	6,341	3,662	3,816	5,007	6,469	8,712
Value of surplus property transferred:											
Acquisition cost of personal property	244,900	223,800	268,700	277,300	266,400	215,509	199,383	223,503	246,330	279,200	287,200
Fair value of real property	21,000	21,100	15,100	17,900	15,100	16,684	26,276	13,254	12,468	14,000	15,500
Other[15]	19,664	20,341	24,851	28,732	38,701	53,714	46,906	53,754	52,992	68,681	73,323

[1] Includes Office of Economic Opportunity and Indian education programs.

[2] Includes small amounts for National Defense Education Act loans to private elementary-secondary schools.

[3] Includes supplemental centers, school library materials, strengthening State education agencies, captioned films for the deaf, dissemination of information, school counseling and testing, American Printing House for the Blind, planning and evaluation, and National Aeronautics and Space Administration elementary-secondary schools program.

[4] Includes Elementary and Secondary Education Act title I, handicapped children, dropout prevention, bilingual education, and Kendall School for the Deaf.

[5] Includes District of Columbia, Canal Zone, territories and dependencies, Cuban refugees, and payments in lieu of taxes by the Atomic Energy Commission and the Tennessee Valley Authority.

[6] Includes model secondary school, educational exchange, National Science Foundation science education, National Foundation on the Arts and the Humanities, and Junior ROTC.

[7] Data are from *Federal Funds for Research, Development, and Other Scientific Activities*, annual publication, National Science Foundation. Includes university-operated research centers.

[8] 1972 amounts are estimated by the Office of Education.

[9] Includes adult vocational education, Manpower Development and Training Act, programs for vocational-technical and continuing education, work-incentive activities, Cuban refugee assistance, development facilities in redevelopment areas, Indian adult education, and adult education and manpower programs of the Health Services and Mental Health Administration, Gallaudet College, Foundation for the Arts and the Humanities, and the Small Business Administration.

[10] Includes Office of Education and Department of the Interior (except Indians) adult basic education.

[11] Includes National Defense Education Act and insured student loans.

[12] Includes Department of Housing and Urban Development college housing loans and Office of Education college facilities loans.

[13] Includes Library of Congress, Smithsonian Institution, General Services Administration, National Archives and Records Service, National Agricultural Library, and Government Printing Office depository library and catalog and index activities.

[14] Includes special foreign currency education research and training, U.S. Information Agency education assistance, National Science Foundation international education activities, and National Aeronautics and Space Administration international education activities.

[15] Includes Office of Education and education programs and administration expenditures not otherwise included.

NOTE.–Because of the exclusion of some programs and because data are based on Federal disbursement rather than the authority to spend, the figures since 1968 are not strictly comparable with those for earlier years.

SOURCE: Compiled by the National Center for Educational Statistics, Office of Education, U.S. Department of Health, Education, and Welfare, from information collected by the Office of Management and Budget for its report, *Special Analyses, Budget of the United States, Fiscal Year 1972.* Research data are from *Federal Funds for Research, Development, and Other Scientific Activities* XIX, National Science Foundation.

Table B-9.—Office of Education expenditures, by legislative program: Fiscal years 1960 to 1972

[In thousands of dollars]

Legislative program	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971[1]	1972[1]
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Total	$459,965	$527,626	$547,408	$635,210	$673,005	$872,021	$2,024,428	$3,075,349	$3,613,476	$3,472,793	$4,111,598	$4,483,321	$4,737,700
Elementary and Secondary Education Act[2]	811	1,096	1,247	1,521	1,648	1,712	816,982	1,252,208	1,327,723	1,359,843	1,412,949	1,651,586	1,744,430
Title I. Educationally deprived children	......	......	......	......	......	......	746,904	1,056,621	1,049,116	1,073,033	[3] 1,170,355	[3] 1,405,250	1,463,169
Title II. Library resources	......	......	......	......	......	......	47,871	92,506	91,054	64,530	44,670	51,472	73,438
Title III. Supplementary education centers	......	......	......	......	......	......	10,938	74,961	161,256	194,058	158,781	143,478	142,352
Title V. Strengthening State departments of education[4]	811	1,096	1,247	1,521	1,648	1,712	11,269	28,121	26,297	27,463	29,247	29,335	33,475
Title VII. Bilingual education	......	......	......	......	......	......	......	......	......	456	6,192	17,298	23,151
Title VIII. Dropout prevention	......	......	......	......	......	......	......	......	......	303	3,704	4,753	8,845
School assistance in federally affected areas	258,198	278,782	282,909	343,111	334,289	349,671	409,593	447,074	506,372	397,581	656,372	511,688	486,569
Maintenance and operation	174,850	207,749	226,419	276,869	283,688	311,413	353,851	399,858	470,887	374,589	620,463	479,273	460,654
Construction	83,348	71,033	56,490	66,242	50,601	38,258	55,742	47,216	35,485	22,992	35,909	32,415	25,915
Higher Education Act	......	......	......	......	......	22,569	35,232	238,498	365,884	315,480	531,090	594,492	929,750
Title I. University community services	......	......	......	......	......	......	3,926	14,774	9,897	8,186	10,669	603	9,475
Title II. Library programs:[5]													
College library resources	......	......	......	......	......	......	......	8,380	48,906	......	34,063	10,010	5,723
Library training	......	......	......	......	......	......	......	789	11,381	3,006	7,006	3,965	3,590
Acquisition and cataloging by Library of Congress	......	......	......	......	......	......	300	3,478	5,478	5,500	5,721	6,944	......
Title III. Strengthening developing institutions	......	......	......	......	......	......	......	4,919	22,428	26,944	27,731	33,097	34,105
Title IV. Student assistance:													
Equal opportunity grants	......	......	......	......	......	......	......	53,916	103,104	91,184	314,652	323,440	575,000
Work-study program and cooperative education	......	......	......	......	......	22,569	30,634	106,263	111,812	95,058			
Insured loans	......	......	......	......	......	......	......	15,934	28,947	49,118	98,330	133,993	211,363
Student loans insurance fund	......	......	......	......	......	......	......	......	......	-714	2,323	4,719	6,642
Title V. National Teacher Corps	......	......	......	......	......	......	362	12,521	16,019	19,358	18,191	26,635	29,289
Title VI. Undergraduate instructional assistance:													
Television and other equipment	......	......	......	......	......	......	......	20,523	5,415	14,553	4,968	3,120	5,303
Special programs for disadvantaged—Talent Search and remedial assistance	......	......	......	......	......	......	10		2,497	460	7,437	47,966	49,260
Special services for disadvantaged—Upward Bound	......	......	......	......	......	......	......	......	......	2,828			
Higher Education Facilities Act	......	......	......	......	......	2,088	105,526	276,762	461,965	414,967	437,387	374,280	201,396
Title I. Public community colleges and technical institutes	......	......	......	......	......	......	14,097	58,152	80,202	69,304	317,227	296,098	161,594
Other undergraduate facilities	......	......	......	......	......	......	34,642	121,475	236,861	199,337			
State administration and planning	......	......	......	......	......	1,288	1,675	2,116	5,066	4,885	5,961	6,145	5,499
Major disaster areas	......	......	......	......	......	......	......	......	147	284	......	......	......

See footnotes at end of table.

Table B-9.—Office of Education expenditures, by legislative program: Fiscal years 1960 to 1972—Continued

[In thousands of dollars]

Legislative program 1	1960 2	1961 3	1962 4	1963 5	1964 6	1965 7	1966 8	1967 9	1968 10	1969 11	1970[1] 12	1971[1] 13	1972[1] 14
Title II. Graduate facilities	......	......	......	......	......	......	$4,220	$13,978	$37,970	$46,924	......	......	......
Title III. College construction loans	......	......	......	......	......	$1,700	50,892	81,042	101,719	94,233	$114,199	$71,037	$21,675
Construction loans interest subsidization	......	......	......	......	......	......	......	......	......	......	......	1,000	12,626
Vocational education[6]	$45,179	$47,769	$51,762	$55,176	$54,503	131,054	128,468	226,163	255,224	256,595	285,568	381,636	436,253
Vocational Education Act of 1963	45,179	47,769	51,762	55,176	54,503	128,327	118,396	215,066	250,197	237,539	271,282	320,606	367,268
George-Barden and supplemental acts													
Smith-Hughes													
Work-study program and cooperative education	......	......	......	......	......	2,727	10,072	11,097	5,027	4,099	5,322	21,144	17,411
Innovative programs in vocational education and research	......	......	......	......	......	......	......	......	......	1,357	1,593	19,039	38,441
National advisory council	......	......	......	......	......	......	......	......	......	......	94	259	380
Transfer to Department of Labor for manpower projections and studies	......	......	......	......	......	......	......	......	......	......	......	......	......
State advisory council	......	......	......	......	......	......	......	......	......	......	2,218	2,380	2,380
Consumer and homemaking education	......	......	......	......	......	......	......	......	......	13,600	5,059	18,208	10,373
Education professions development	8,683	12,750	13,893	14,237	13,969	36,679	42,147	56,407	60,271	49,655	104,671	116,219	117,528
Preschool, elementary, and secondary teacher training programs[7]	8,683	12,750	13,893	14,237	13,969	36,679	42,147	55,417	58,387	42,078	72,924	76,483	71,514
Preschool, elementary, and secondary training grants to States	......	......	......	......	......	......	......	......	......	2,085	21,500	24,219	33,957
Higher education training programs	......	......	......	......	......	......	......	990	1,884	5,492	10,247	15,517	12,057
Library Services and Construction Act	6,056	6,153	6,932	7,345	7,443	26,111	40,915	57,407	62,017	62,794	52,687	50,538	34,721
Public library services	6,056	6,153	6,932	7,345	7,443	22,376	25,000	32,553	32,391	30,722	30,146	33,281	18,520
Construction	......	......	......	......	......	3,735	15,915	23,923	26,615	26,897	17,527	11,724	10,700
Interlibrary cooperation	......	......	......	......	......	......	......	352	1,096	2,131	1,671	1,951	2,007
State institutional library service	......	......	......	......	......	......	......	345	1,175	1,959	1,951	2,182	2,127
Library services to physically handicapped	......	......	......	......	......	......	......	234	740	1,085	1,392	1,400	1,367
Educational improvement for the handicapped	380	997	1,191	2,587	4,982	15,327	15,366	26,940	40,955	56,228	79,065	88,886	102,149
Education for the handicapped	......	......	......	......	......	......	......	3	7,867	22,088	31,073	33,009	34,393
Teacher education and recruitment	308	814	943	2,337	2,466	12,823	10,448	21,968	24,162	21,680	31,219	30,737	33,430
Research and innovation	......	......	......	......	1,016	1,004	3,227	4,185	8,277	9,737	12,515	16,889	21,855
Captioned films and media services	72	183	248	250	1,500	1,500	1,691	784	649	2,640	4,258	4,851	5,781
Early childhood education	......	......	......	......	......	......	......	......	......	83	......	3,400	6,690
National Defense Education Act	117,965	153,608	158,801	175,154	216,338	232,287	320,172	338,015	370,034	353,869	332,898	371,080	98,661

See footnotes at end of table.

Table B-9.—Office of Education expenditures, by legislative program: Fiscal years 1960 to 1972—Continued

[In thousands of dollars]

Legislative program 1	1960 2	1961 3	1962 4	1963 5	1964 6	1965 7	1966 8	1967 9	1968 10	1969 11	1970 12	1971[1] 13	1972[1] 14
Title II. Student loans and cancellations	$40,326	$57,491	$74,532	$91,841	$111,729	$135,538	$177,394	$181,000	$182,825	$196,621	$194,520	$243,006	$5,000
Title III. Instructional assistance:													
Grants and loans[8]	49,848	56,218	39,510	34,010	56,131	50,615	76,175	69,438	85,916	52,328	58,547	46,768	41,000
Title IV. College teacher fellowships	4,620	11,451	17,313	19,604	19,680	20,695	31,974	52,591	60,650	70,337	63,518	66,003	41,606
Title V. Guidance, counseling, and testing	12,870	15,686	14,064	15,162	13,710	17,322	22,017	22,779	23,093	21,988	......	......	......
Title VI. Language development[9]:													
Language and area centers, fellowships, and research	10,301	12,762	13,382	14,537	15,088	8,117	12,612	12,207	17,550	12,595	16,313	15,303	11,055
Research and development	6,004	7,878	7,461	9,910	12,712	18,264	31,245	73,227	79,955	84,714	87,823	94,204	113,692
Training and research	......	......	......	......	......	......	......	6,548	4,832	4,470	6,736	5,923	3,947
Construction	......	......	......	......	......	......	......	1,171	333	490	1,917	9,622	12,888
Research and development and educational media research and dissemination[10]	6,004	7,878	7,461	9,910	12,712	18,264	31,245	65,508	74,790	79,754	79,170	78,659	96,857
Adult basic education	......	......	......	......	......	3,146	33,616	28,336	28,701	37,527	43,464	50,239	55,615
Civil rights activities	......	......	......	......	......	1,292	5,291	8,798	7,437	8,239	10,608	20,193	12,798
Land-grant colleges	5,052	5,052	10,744	14,500	14,500	14,500	14,500	14,500	14,500	14,550	21,961	12,680	2,600
Special foreign currency program-training, research, and study (grants to American institutions overseas)	......	1	6	20	138	129	500	1,199	857	364	774	1,587	2,353
Educational broadcasting facilities[11]	......	......	......	......	......	......	......	......	......	3,756	4,163	5,001	7,348
Follow Through	......	......	......	......	......	......	......	......	......	......	......	......	1,800
Emergency school assistance	......	......	......	......	......	......	......	......	......	......	......	99,853	300,000
National Foundation on Higher Education	......	......	......	......	......	......	......	......	......	......	......	......	30,000
Office of Education salaries and expenses, including technical services, planning and evaluation, and computer services	11,608	13,569	12,664	12,041	14,251	17,732	25,901	38,514	40,906	44,754	47,714	59,159	60,037
Consolidated Working Fund-net advances and reimbursements	+29	-28	-202	-392	-1,768	-1,440	-1,026	-8,699	-9,325	+11,877	+2,404	......	......
Expenditures from funds transferred to the Office of Education by other Federal agencies[12]:													
Manpower Development and Training Act[13]	......	......	......	30,925	64,777	93,715	75,532	99,497	99,451	103,691	121,451	......	......
Educational television facilities	......	......	......	......	1,962	3,130	4,663	8,222	6,737	0	0	......	......

See footnotes at end of table.

Table B-9.—Office of Education expenditures, by legislative program: Fiscal years 1960 to 1972—Continued

[In thousands of dollars]

Legislative program 1	1960 2	1961 3	1962 4	1963 5	1964 6	1965 7	1966 8	1967 9	1968 10	1969 11	1970 12	1971[1] 13	1972[1] 14
Mutual exchange activities (foreign currency)	......	......	......	......	......	$1,778	$1,592	$1,596	$1,434	$1,303	$930	......	......
Appalachian Regional Development and Training Act[14]	......	......	......	......	......	......	......	1,856	21,753	22,383	27,128	......	......
Cuban Refugee Program	......	$551	$5,195	$9,155	$9,603	9,479	9,302	13,765	16,990	18,377	19,488	......	......
Office of Economic Opportunity	......	......	......	......	......	26,105	54,681	[15] 6,803	[15] 686	2,250	38,234	......	......
Consolidated Working Fund-gross outlay.........	$62	93	3,068	1,959	2,250	2,615	10,515	[16] -749	11,395	14,763	6,165	......	......

[1] Estimated.

[2] Title VI for education of the handicapped is not included here but is included under "Educational improvement for the handicapped."

[3] Includes some elementary-secondary school expenditures from expired accounts.

[4] Includes title X, National Defense Education Act (NDEA).

[5] Amounts for college library improvement are included under research and development.

[6] Amounts for vocational research are included under research and development.

[7] Includes funds for teacher training institutes (after 1969) provided under the National Foundation on the Arts and the Humanities Act and NDEA.

[8] Includes assistance under the National Foundation on the Arts and the Humanities Act.

[9] Includes Fulbright-Hays Act.

[10] Includes amounts for college library improvement and vocational research in addition to other R&D funds.

[11] Amounts for this activity supported with transferred funds prior to 1969.

[12] Amounts listed below are not included in the Office of Education expenditure totals.

[13] Includes amounts for Area Redevelopment Act.

[14] Funds transferred prior to 1967 are included in the Consolidated Working Fund.

[15] Some OEO transfers also included in the Consolidated Working Fund.

[16] Reflects correction for prior year.

SOURCE: Compiled by the National Center for Educational Statistics and the Office of Administration, Office of Education, U.S. Department of Health, Education, and Welfare.

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